



H00111234 C

NINETEENTH BIENNIAL REPORT
OF THE
NORTH CAROLINA
STATE BOARD OF HEALTH

1921-1922

The Library
of the
University of North Carolina



Endowed by The Dialectic
and
Philanthropic Societies

1902b
1920
-22

NINETEENTH BIENNIAL REPORT

OF THE

NORTH CAROLINA

STATE BOARD OF HEALTH



DECEMBER 1, 1920 - JUNE 30, 1922

RALEIGH
BYNUM PRINTING COMPANY
1923

TABLE OF CONTENTS

Members of the Board.....	3
Preface	6
Public Health Work in North Carolina.....	7
Present Organization North Carolina State Board of Health.....	22
The Investment in Public Health.....	25
State Laboratory of Hygiene.....	29
Bureau of Vital Statistics.....	30
Work of the Bureau of Medical Inspection of Schools.....	33
Work of Bureau of Engineering and Inspection.....	35
Work of Bureau of Epidemiology.....	41
Bureau of Maternity and Infancy.....	49
Bureau of County Health Work.....	52
Minutes Annual Meeting North Carolina State Board of Health, 1921	56
Addenda I	57
Addenda II	80
Minutes of Meeting North Carolina State Board of Health.....	85
Minutes Annual Meeting North Carolina State Board of Health, 1922	93
Minutes of Meeting Executive Committee.....	96

Members of the State Board of Health

Elected by the North Carolina Medical Society

THOMAS E. ANDERSON, M.D., Statesville

Term expires 1923

CHARLES O'H. LAUGHINGHOUSE, M.D., Greenville

Term expires 1923

F. R. HARRIS, M.D., Henderson

Term expires 1925

CYRUS THOMPSON, M.D., Jacksonville

Term expires 1925

Appointed by the Governor

J. HOWELL WAY, M.D., Waynesville

Term expires 1923

A. J. CROWELL, M.D., Charlotte

Term expires 1923

RICHARD H. LEWIS, M.D., LL.D., Raleigh

Term expires 1925

E. J. TUCKER, D.D.S., Roxboro

Term expires 1925

CHARLES E. WADDELL, C.E., Asheville

Term expires 1927

304903

Letter of Transmittal

RALEIGH, N. C., January 1, 1923.

His Excellency, CAMERON MORRISON,
Governor of North Carolina.

MY DEAR SIR:—Under authority of chapter 118, Article I, section 7050, Consolidated Statutes of North Carolina, I have the honor to submit the Biennial Report of the State Board of Health for the period December 1, 1920, to June 30, 1922.

Very respectfully yours,

W. S. RANKIN,
Secretary and Treasurer.

Preface

The same principles which governed the preparation of the reports for the past two bienniums have been followed in the preparation of this report. An effort has been made to avoid the inclusion of information easily obtainable from other publications, and of information largely of details and statistics of little general interest. The arrangement by fairly independent sub-divisions is continued, so that it is possible to read and understand any part of the report without reading the whole report.

Public Health Work in North Carolina

In the seventies Dr. Thomas Fanning Wood, of Wilmington, caught the vision of the possibilities of public health work to North Carolina. How fully he grasped the far-reaching consequences of his idea, how clearly he saw the ever-growing hosts of lives saved as a result of his vision and inspiration, we shall never know. We do know that the vision never left him, and that under its sway he worked, through the Medical Journal which he edited and through the North Carolina State Medical Society, until his influence reached the people of the State in their General Assembly of 1877, with the effect that on February 12, 1877, the North Carolina State Board of Health was born. Ours was the twelfth State board of health to be established.

Without treating the development of the newly established board with that thoroughness that could be termed history, we think it enough to set down here in chronological order the principal events in the life and growth of the North Carolina State Board of Health.

- 1877. Board created. Consisted in the beginning of entire State Medical Society. Society acted through a committee. Annual appropriation, \$100.
- 1878. First educational pamphlet issued. Subject, "Timely Aid for the Drowned and Suffocated." Annual appropriation, \$100.
- 1879. The General Assembly reconstituted the Board of Health. Made it to consist of nine members: six appointed by the Governor three elected by the State Medical Society. Term of office, five years. Dr. Thomas F. Wood elected first Secretary of the Board, May 21. Other legislative provisions: (1) Chemical examination of water, and (2) organization of county boards of health, composed of all regular practicing physicians and, in addition, the mayor of the county town, the chairman of the board of county commissioners, and the county surveyor. Four educational pamphlets issued. Subjects: "Disinfection, Drainage, Drinking-water, and Disinfectants"; "Sanitary Engineering"; "Methods of Performing Post-mortem Examinations"; "Limitation and Prevention of Diphtheria." Annual appropriation, \$200.
- 1881. General Assembly passed a law requiring registration of vital statistics at annual tax listing; law ineffective. Annual appropriation, \$200.
- 1885. General Assembly made county boards of health more efficient; allowed printing privileges not to exceed \$250 annually. Annual appropriation, \$2,000.
- 1886. Bulletin made its appearance in April. Pamphlet on "Care Eyes and Ears," by Dr. Richard H. Lewis, printed and distributed. Subsequent Legislature provided for extra edition of 10,000 copies for general distribution. Annual appropriation, \$2,000.

1888. Yellow fever epidemic in Florida and refugees to Western North Carolina demonstrated value of a Board of Health to cope with situation. Annual appropriation, \$2,000.
1892. Dr. Thomas F. Wood, the Secretary of the Board, died August 22. Dr. Richard H. Lewis elected Secretary to succeed Dr. Thomas F. Wood, September 7. Annual appropriation, \$2,000.
1893. Legislative provisions: (1) Laws improving the reporting of contagious diseases, (2) the protection of school children from epidemics, (3) protecting the purity of public water supplies, and (4) regulation of common carriers. Legislature provided that Governor appoint five of the nine members of the Board of Health, that the State Medical Society elect four, and that the term of office of the members of the State Board of Health be reduced from five to two years. The \$250 printing limit was removed. Pamphlet on quarantine and disinfection was prepared and reprinted by many of the State papers. Annual appropriation, \$2,000.
1894. A number of public health conferences were arranged and held in different towns of the State. Bulletin was increased from a mailing list of 800 to 1,200. Annual appropriation, \$2,000.
1895. Dr. Albert Anderson and Dr. W. T. Pate were elected bacteriologists for the board. Annual appropriation, \$2,000.
1896. Board passed a resolution requiring chemical and bacteriological examinations of municipal water supplies. Dr. Venable of Chapel Hill undertook the chemical examination, and Drs. Anderson and Pate the bacteriological examination. Board also directed Mr. John C. Chase, the engineer member, to inspect all municipal water plants in the State. Annual appropriation, \$2,000.
1897. General Assembly enacted law requiring county superintendents of health to be elected by county commissioners, and reduced term of office to one year. Annual appropriation \$2,000.
1899. General Assembly improved the laws protecting public water supplies. Smallpox prevailed extensively in the State. Dr. Henry F. Long, and later, on Dr. Long's resignation, Dr. Joshua Tayloe were employed to travel over the State, consulting with and advising the local sanitary authorities as to proper means for protecting the public. Annual appropriation, \$2,000.
1900. State Board of Agriculture, on request of State Board of Health, agreed to examine samples of water from public water supplies until Board of Health could provide its own examiner. Annual appropriation, \$2,000.
1901. State Board of Embalmers, with representatives of State Board of Health, established. County health work placed in the hands of county sanitary committees composed of county commissioners and two physicians which commissioners elected to serve with them. Term of office of county superintendent of health made two years. Annual appropriation, \$2,000.
1903. General Assembly enacted law permitting Board of Health to charge \$5 for each analysis of a public water supply, this fee to be used in paying Department of Agriculture for services of examiner. Dr. C. W. Stiles, U. S. P. H. S., before the State Medical Society

- at Hot Springs, called attention to prevalence of hookworm disease in the South. Dr. J. L. Nicholson and Dr. W. S. Rankin, working under State Board of Health during fall of 1903 and spring of 1904, showed great prevalence of this disease in North Carolina. Annual appropriation, \$2,000.
1904. A stenographer was employed. One hundred and twenty thousand pamphlets on tuberculosis were printed and distributed. There was a renewal and an extension of co-operative work between the Board of Health and the State press, a number of articles dealing with hygienic and sanitary subjects being furnished the papers and published in them. Annual appropriation, \$2,000.
1905. General Assembly established State Laboratory of Hygiene; imposed water tax of \$64 on all public water companies; voted \$600 annually for support of Laboratory. Small appropriation made it necessary for the Department of Agriculture to continue to assist State Board of Health. Annual appropriation, \$2,600.
1906. The North Carolina Association for the Study and Prevention of Tuberculosis was organized. Annual appropriation, \$2,600.
1907. Two thousand dollars appropriated for the State Laboratory of Hygiene. Pasteur treatment provided. State sanatorium for treatment of tuberculosis founded: \$15,000 appropriated for permanent improvements and \$5,000 for maintenance. A law requiring the separation of tuberculous prisoners from other prisoners was enacted. Annual appropriation, \$4,000.
1908. January 1, Dr. C. A. Shore became Director of State Laboratory of Hygiene. Annual appropriation, \$4,000.
1909. General Assembly provided for (1) whole-time State Health Officer; (2) collection of vital statistics of towns having a population of 1,000 or over; (3) that all public water companies file plans and specifications of their plants with the State Board of Health, and that the State Board of Health pass necessary rules and regulations for the care of public watersheds and plants and furnish such rules and regulations and other advice to those having charge of public water supplies; (5) that counties provide free diphtheria antitoxin for county indigents, and (6) that the maintenance appropriation for the Sanatorium be increased from \$5,000 to \$7,500, and an additional \$30,000 be granted for permanent improvements. Dr. Richard H. Lewis resigned as Secretary of the Board, and Dr. W. S. Rankin was elected as his successor, beginning his official work July 1. Annual appropriation, \$10,500.
1910. General effort to interest the people and State organizations in public health work. Bulletin increased from 3,500 edition to 10,500 edition. Addresses on public health work delivered to Conference of County Superintendents of Schools, State Federation of Women's Clubs, State Press Association, and Sanitary Sunday observed in April. Dr. John A. Ferrell elected, February, Assistant Secretary for Hookworm Eradication; began work under State Board of Health and Rockefeller Sanitary Commission. First effort in the eradication of hookworm disease was to interest school teachers in the disease and through their

assistance examine and treat the children, and thereby reach the community. Three bottled spring waters sold on the market examined, found polluted, and public attention called to the pollution. Annual appropriation, \$10,500.

1911. Legislature established county boards of health to take the place of the county sanitary committees; county board of health composed of chairman board of county commissioners, county superintendent of schools, mayor of county town, and two physicians selected by the three county officials to serve with them. Legislature also abolished quarantine for smallpox and improved the quarantine laws. One thousand dollars annually appropriated to contract with antitoxin manufacturers for State supply of high-grade diphtheria antitoxin, with result that price of antitoxin was cut to one-fourth former price, saving the citizens of the State over \$30,000 annually. Bulletin increased from 11,500 copies to 20,000 copies each edition; closer co-operation with press of State developed; regular weekly press articles prepared and sent to papers; increase in numbers of popular pamphlets for distribution. Hookworm work this year largely educational through the school forces and investigative through county dispensaries; thousands of children found infected and treated. Strong sentiment began to make itself felt for better health work by counties, four counties employing whole-time county health officers. Maintenance appropriation for State Sanatorium increased to \$12,500, with \$20,000 voted for permanent improvements. Annual appropriation, \$22,500.
1912. Bulletin increased to 40,000 edition; number of popular pamphlets dealing with different diseases increased; press work improved; educational work of Board along all lines amplified. Secretary of Board of Health called attention of conjoint meeting of State Medical Society and State Board of Health to the relative importance of health problems and the bearing of this subject upon the proper apportionment of health funds; instrumental in passing a resolution to the effect that pellagra was an interstate problem, not a State problem, and requesting the Federal Government to deal with pellagra as a Federal problem; resolution responsible, to considerable extent, for successful effort on part of Hon. John M. Faison's securing congressional appropriation of \$45,000 for the study of pellagra by the Federal Government. Hookworm work extended and county funds appropriated to supplement State and Rockefeller Foundation for this work. Annual appropriation, \$22,500.
1913. General Assembly passed Model Vital Statistics Law with \$10,000 appropriation for its enforcement. County superintendents of health changed to either county physician or county health officer. Educational efforts of Board continued and enlarged. Hookworm work along same line as year before increased in amount. Dr. John A. Ferrell resigned as Assistant Secretary to accept position with the central office of the Rockefeller Sanitary Commission in Washington, D. C. Dr. C. L. Pridgen succeeded Dr. Ferrell. The movement for improved county health

work had by this time resulted in ten counties electing whole-time county health officers. The State Sanatorium for Treatment of Tuberculosis turned over by Extra Session of 1913 to the management of State Board of Health. Annual appropriation \$40,500.

1914. Preceding work of the Board continued. Board of Health took over management of Sanatorium; started out under many difficulties on account of the institution owing many debts and the appropriation being limited. Hookworm work changed to community work directed to the installation of sanitary privies in all homes. Laboratory began to produce and distribute free anti-typhoid vaccine. Dr. C. L. Pridgen resigned as Director Hookworm Eradication, and Dr. W. P. Jacocks succeeded him. Annual appropriation, \$40,500.
1915. General Assembly makes State vital statistics law conform to National model by requiring burial permits in rural communities; enacts legislation permitting county commissioners and towns and cities to appropriate money for support of tuberculous citizens in State Sanatorium; provides \$15,000 for purchase and building of anti-toxin plant; appropriates \$60,000 for payment of Sanatorium debts and new buildings and other improvements, and \$25,000 annually for maintenance and \$10,000 for extension anti-tuberculosis work. Educational work greatly extended: Bulletin now 47,000; traveling public health exhibit shown at fairs and other assemblages; press work greatly developed through employment of journalist for whole time; stock lectures with lantern slides supplied public speakers in different parts of the State. Community soil pollution work under Dr. W. P. Jacocks stops in May, and Bureau of County Health Work with Dr. G. M. Cooper at its head, succeeds, beginning work in June. Considerable amount of work done for improvement of prison conditions. The unit system of county health work gets a good start: over 52,000 people given three complete vaccinations against typhoid fever, and medical inspection of schools put on in one county. Annual appropriation, \$50,500.
1916. North Carolina was admitted to the Registration Area for deaths. To the educational agencies of the Board was added a self-supporting moving picture health show. Many saw this show during the year, and, seeing, believed in health work as never before. Bulletin had to be discontinued temporarily for lack of printing funds, but before discontinuance reached 51,000 edition. Co-operation with University in developing a plan and putting on a home post-graduate course in medicine, giving first course to 169 doctors. Put into operation an optional system of hotel inspection, with grading and publishing scores. Continued unit system of county health work, giving three anti-typhoid injections to 48,000, making 100,000 immunized in summers of 1915 and 1916. Did complete medical inspection of five counties and with inspection a large amount of educational work as to sanitary and hygienic living. Secured effort by Federal Children's Bureau to develop unit of child hygiene work, the Bureau using

two employees to work in Cumberland and Swain counties for about eight months. Laboratory of Hygiene buys land and erects its own building. Sanatorium making a decided impression on the State. Annual appropriation, \$55,500.

1917. The General Assembly passed the following important health legislation: Chapter 263, entitled "An act to prevent and control the occurrence of certain infectious diseases in North Carolina"; chapter 244, entitled "An act to provide for the physical examination of the school children of the State at regular intervals"; chapter 276, entitled "An act for the co-operative and effective development of rural sanitation"; chapter 257, entitled "An act to prevent blindness in infancy, designating certain powers and duties and otherwise providing for the enforcement of this act"; chapter 66, entitled "An act to provide for the sanitary inspection and conduct of hotels and restaurants"; chapter 286, entitled "An act to regulate the treatment, handling and work of prisoners."

Following the enactment of this legislation, administrative machinery, consisting of a Bureau of Epidemiology under the direction of Dr. A. McR. Crouch, a Bureau for the Medical Inspection of Schools under the direction of Dr. Geo. M. Cooper, and a Bureau for County Health Work, under the direction of Dr. B. E. Washburn, was established. Dr. Washburn, an officer of the International Health Board, was loaned to the State without cost and the International Health Board, in addition to furnishing Dr. Washburn, appropriated \$15,000 annually for rural sanitation in accordance with the provisions of chapter 276.

The United States Public Health Service in February, 1917, detailed Dr. K. E. Miller to study county health work in different sections of the country and to establish for demonstration purposes, in Edgecombe County, department of health on an economic basis easily within the financial reach of the average county.

The State Laboratory of Hygiene moved into its own building January 15, 1917.

The State was admitted to the registration area of the Union for births in January, 1917, the Bureau of the Census having found after investigation that our birth registration was 96 per cent complete.

The special campaign against typhoid fever, begun so satisfactorily in 1915, was continued. Free vaccination of the people, however, was interfered with by the difficulty in securing medical officers to do the work, the preparedness program of the Government having caused many physicians and nurses to enter the Army and Navy; nevertheless, a total of 30,000 citizens of the State were vaccinated as a direct result of the Board's activities, and many thousands of others were vaccinated by the physicians of the State as a result of the educational work of the Board directed to impressing the people with the value of vaccination as a means of prevention for typhoid fever.

In December, 1917, life extension work as developed by the Life Extension Institute of New York, which consisted briefly of the free physical examination of interested citizens for the purpose of advising them as to their physical condition and needed hygienic reform and medical treatment, was begun on a county basis. The funds necessary for this work were appropriated partly by the State and partly by the counties in which the life extension work was carried out. Dr. Amzi J. Ellington, who at the time was a resident physician in the New York City Hospital and who had during his residency in that institution studied the methods of the Life Extension Institute under Dr. Eugene Lyman Fisk, was employed and placed in charge of the work. Life extension work was carried out in Vance, Alamance, Lenoir and Robeson counties, and resulted in the full physical examination of 4,000 citizens. This work was very favorably received, and the outlook for its continued development seemed excellent when, with the declaration of war and the call for physicians to enter the military service of the country, Dr. Ellington enlisted in the Medical Corps of the Army. For this reason, and for the further reason that it has been almost impossible to secure health officers during the past two years, the work was not resumed.

The educational work of the State Board of Health consisted in the issuance of eight Bulletins, each monthly edition amounting to 45,000, and a daily newspaper health article. The Bureau continued its moving picture show exhibit and, in addition, prepared probably the best three-dimension educational exhibit in the United States. In 1917 the following exhibits were given: motion picture entertainments, 236; traveling public health exhibits, 32; special exhibits, 58; stereopticon entertainments, 3—to a total of 95,000 people. Arrangements were made for the preparation of newspaper plate, which was sent to and extensively used by 202 papers having a total circulation of 303,000. A large part of this newspaper material was prepared by the well-known authority and publicist in matters of sanitary and hygienic education, Dr. W. A. Brady, of Elmira, New York.

The annual appropriation for the State Board of Health was \$60,772.16. The annual appropriation for the State Laboratory of Hygiene was \$12,500, and this, in addition to \$9,087.22 in fees permitted under the laws of the State to be paid to the Laboratory for special work, provided the Laboratory with a total annual budget of \$21,587.22.

1918. Much of the work this year was influenced by the war and had to do with preparedness. The State Health Officer visited Washington, at the request of the Council of National Defense and as chairman of a committee of State Health Officers, on a number of occasions for conferences with respect to preparedness measures, provisions for the control of venereal diseases, arrangements for co-ordinating the control of infectious diseases in the civilian population with their control in cantonments, and to arrange, if possible, with the Public Health Service and

the Surgeon General of the Army for preserving the personnel of State health departments during the war. The State Health Officer also made a visit to the States of South Carolina, Georgia, Alabama and Florida for the Council of National Defense in order, if possible, to interest the Governor, the State Board of Health, and the State Council of Defense in venereal disease control.

Considerable time was given to assisting Major John W. Long, Medical Aide to the Governor, in the work of organizing the Medical Advisory Boards and in interesting physicians in entering the medical service of the Army and Navy, and, later in the year, in inducing the physicians of the State to become members of the Volunteer Medical Service Corps.

Partly as a result of these activities, the Surgeon General of the Army assigned Major Joseph J. Kinyoun to assist the State Board of Health in the control of communicable diseases, the Board being under no financial obligation for Major Kinyoun's assistance; and as a result of the successful termination of the activities of various interests looking to a more effective control of venereal diseases, the Kahn-Chamberlain Bill passed Congress, and made available to the State of North Carolina, and without condition \$23,988.61 for venereal disease work.

The Laboratory during this year began the distribution of a high grade of diphtheria antitoxin.

The Bureau of Medical Inspection of Schools developed, and with a degree of success that we may say established, free dental clinics for the public schools of the State. The Bureau also developed to a successful extent an arrangement in the form of adenoid and tonsil clubs for the practical and economic treatment of public school children suffering from these defects.

The Bureau of Epidemiology employed two third-year medical students, equipped them with motorcycles, and put them into the field to investigate infringements of the quarantine law. Sufficient convictions were obtained to impress the medical profession with the determination of the State to enforce its health laws, and a fairly satisfactory compliance with the laws regarding the reporting of communicable diseases was brought about.

The Bureau of Venereal Diseases, paid for by the Federal appropriation, was established in September under the directorship of Dr. James A. Keiger, of Charlotte, N. C.

Mr. Warren H. Booker, for the last seven years the efficient director of the Bureau of Engineering and Education, left in September for Red Cross work in France, the work of his Bureau being continued, with the exception of the engineering work, by Mr. Ronald B. Wilson. As a result of Mr. Booker's leaving, certain funds became available, and a Bureau of Infant Hygiene, under the directorship of Mrs. Kate Brew Vaughn, was organized late in 1918.

Perhaps the most outstanding feature of the health work during the year 1918 was the epidemic of influenza. The epidemic began early in October and caused in October alone 6,056

deaths; in November 2,133 deaths; and in December 1,497 deaths, a total during the last three months of 9,686 deaths.

The annual appropriation for the State Board of Health for 1918 was \$73,210.38.

The annual appropriation for the State Laboratory of Hygiene was \$12,500. The Laboratory, during this year, collected \$8,532.48 in fees for special work, so that the total income of the Laboratory for this year was \$21,032.48.

1919. The General Assembly passed the following important health legislation: chapter 71, entitled "An act to prevent the spread of disease from insanitary privies"; chapter 192, entitled "An act to provide for the physical examination and treatment of the school children of the State at regular intervals"; chapter 206, entitled "An act for the prevention of venereal diseases"; chapter 213, entitled "An act to require the provision of adequate sanitary equipment for public schools"; chapter 214, entitled "An act to obtain reports of persons infected with venereal diseases"; chapter 215, entitled "An act for the repression of prostitution"; and chapter 288, entitled "An act to amend chapter 671, Public-Local Laws of 1913, relating to the injunction and abatement of certain nuisances."

The Bureau of Engineering and Inspection was organized in April. The engineering work of the Board had been suspended with the resignation of Mr. Warren H. Booker in September, 1918, Mr. Booker having gone to France to engage in tuberculosis work under the direction of the Red Cross. Between September, 1918, and April, 1919, the engineering problems coming before the Board had been referred and very kindly and effectively taken care of by Col. J. L. Ludlow, of Winston-Salem. Mr. H. E. Miller, an engineer and a graduate of the University of Michigan, was placed in charge of the new bureau, and his brother, Dr. K. E. Miller, of the United States Public Health Service, was detailed by the Service to assist him in the organization of his work. Mr. H. E. Miller and Dr. K. E. Miller spent the spring and summer and a part of the fall in studying various types of privies, in preparing plans for the construction and maintenance of privies, and in preparing the necessary notices and literature to inform the people of the objects and requirements of the new privy law.

On May 1st Dr. A. J. Warren, health officer of Rowan County, was appointed to and accepted the position of Assistant Secretary of the Board.

On July 1st Mr. R. B. Wilson accepted the position of Director of Public Health Education.

On August 1st Dr. A. McR. Crouch, Director of the Bureau of Epidemiology, resigned to accept a position with the city of Wilmington. Dr. F. M. Register, whole-time health officer of Northampton County, succeeded Dr. Crouch as director of the bureau.

In September Dr. J. R. Gordon, Director of the Bureau of Vital Statistics since 1914, resigned on account of impaired

health, and on October 1st the Bureau of Epidemiology and the Bureau of Vital Statistics were combined and placed under the direction of Dr. Register.

In September Mrs. Kate Brew Vaughn, Director of the Bureau of Infant Hygiene, resigned. The bureau was reorganized under an understanding with the American Red Cross and was enlarged to include, in addition to infant hygiene, the problem of public health nursing, the name of the bureau being changed to that of "Bureau of Public Health Nursing and Infant Hygiene." Under the agreement with the Red Cross this bureau was to have an available appropriation of \$12,000 a year, half of which was to be furnished by the American Red Cross and half by the State Board of Health. The personnel of the bureau and its plan of work, under the agreement, was made contingent upon the approval of both participating agencies, the American Red Cross and the State Board of Health. In December Miss Rose M. Ehrenfeld took charge of the new bureau and began its organization and work.

On October 1st Dr. Jas. A. Keiger, Director of the Bureau of Venereal Diseases, resigned and Dr. Millard Knowlton was appointed to succeed him.

The typhoid campaign, carried on during the summer through previous years, was continued in the summer of 1919, using third year medical students, furnished either with automobile or motorcycle for getting about. Campaigns were carried out in the following counties: Bertie, Cabarrus, Chatham, Chowan, Columbus, Craven, Hertford, Iredell, Johnston, Lincoln, Onslow, Pasquotank, Perquimans, Randolph, Richmond, Rockingham, Stanly, Union, Warren, Wayne. A total of 49,076 were given complete vaccinations.

The educational work of the Board consisted of the publication of a 48,000 monthly edition of the Bulletin, and the distribution of about 350,000 pieces of public health literature.

The funds available during this fiscal year amounted to \$198,549.14, of which \$102,301.98 was from State appropriations and the remainder from outside sources.

The appropriation for the State Laboratory of Hygiene for this year was \$28,500; in addition to this, the Laboratory collected in fees for special work, for antitoxin, and in water taxes a total of \$14,344.02, making a total of \$42,844.02 available for work of Laboratory.

1920. During this year there was a Special Session of the General Assembly, lasting twenty days and held in the latter part of August. This Special Session passed an act amending the vital statistics law, making the fees for local registrars 50 cents instead of 25 cents for each certificate properly filed with the State Board of Health.

On January 1st Dr. B. E. Washburn, who had had general direction of the co-operative county health work and who had rendered most acceptable service, was recalled by the International Health Board and detailed to take charge of their inter-

ests in Jamaica. Dr. K. E. Miller, of the United States Public Health Service, who had been detailed in January, 1917, to organize a model county health department in Edgecombe County and then, in 1919, to assist his brother, Mr. H. E. Miller, in organizing the work of the new Bureau of Engineering and Inspection, to which was assigned the duty of enforcing the State-wide privy act, succeeded Dr. Washburn as Director of the Bureau of County Health Work.

In January a co-operative effort with the United States Public Health Service and the International Health Board to demonstrate the possibilities and advantages of the eradication of malaria from certain towns and cities in the eastern part of the State was begun. The terms of co-operation were that the International Health Board and the State Board of Health were to pay one-half of the expenses of the local work and the town or city in which the work was done the other half, the Public Health Service furnishing, as its part, expert supervising personnel. The towns and cities chosen for this work were Goldsboro, Farmville, and Greenville, the budgets for each municipality being, respectively: Goldsboro, \$13,670.98; Farmville, \$5,000; and Greenville, \$9,000, a total investment in this work of \$27,670.98. Mr. A. W. Fuchs, Associate Sanitary Engineer, was detailed by the Service to have supervision of the work.

In February Dr. A. J. Warren, Assistant Secretary of the State Board of Health, resigned his position in order to accept the appointment of city health officer of Charlotte, North Carolina.

In the winter and spring of 1920, the North Carolina Landowners Association, under the progressive leadership of Mr. W. A. McGirt, of Wilmington, undertook a very extensive educational campaign against malaria, which was carried on through the public schools of thirty-eight counties in Eastern North Carolina. A series of county and State prizes for the best essay on malaria by public school children were offered as an inducement to the school children to interest and inform themselves, and, indirectly, their parents, with regard to the importance of this disease. To make possible this work by the school children 75,000 malaria catechisms, prepared by Dr. H. R. Carter, of the United States Public Health Service, were distributed through the public schools of the eastern part of the State to the school children. Thousands of essays were written, and it is reasonable to believe that the campaign was one of the most successful public health educational attempts yet undertaken.

In June it was found advisable to separate the Bureau of Epidemiology and the Bureau of Vital Statistics which had, on account of the scarcity of health officers, been placed under the directorship of a single bureau chief, Dr. F. M. Register. Dr. Register was appointed Director of the Bureau of Vital Statistics and Dr. J. S. Mitchener was appointed Director of the Bureau of Epidemiology.

In April the Interdepartmental Social Hygiene Board assigned to the State Board of Health several workers for making a study

of vice conditions in North Carolina towns and cities and for taking such steps as were found expedient for decreasing prostitution. This group of workers was withdrawn in September, on account of differences developing between them and Dr. Knowlton, chief of the Bureau of Venereal Diseases, with the understanding that another group of workers would be assigned to this work at a later date.

In June arrangements were made with the United States Public Health Service and the American Social Hygiene Association for the development of an elaborate educational unit on sex hygiene and venereal diseases designed to reach rural meetings through the use of picture films and a portable truck. An outfit consisting of several lecturers and a moving picture truck began work in Cumberland County in August, and from its very beginning met a most cordial reception and gave every promise of developing into one of the most useful agencies for dealing with the venereal disease problem.

During the year the anti-typhoid vaccination campaign was continued in Alamance, Bladen, Columbus, Duplin, Franklin, Gaston, Harnett, and Mecklenburg counties. Co-operative campaigns, in which the counties furnished the working personnel, were also carried on in Anson, Johnston and Rutherford counties. A total of 29,435 citizens have been vaccinated against the disease, and this does not include Columbus County, in which the work was just beginning when this report was completed.

The educational work of the State Board of Health during this year consisted of a 48,000 monthly edition of the State Board of Health Bulletin and the distribution of approximately 350,000 pieces of public health literature.

The funds available during this fiscal year amounted to \$342,284.33, of which \$176,152.61 was State appropriation and the remainder from outside sources.

The appropriation for the State Laboratory of Hygiene for this year was \$25,000; in addition to this, the Laboratory collected in fees for special work, for antitoxin and in water taxes, a total of \$13,698.89, making a total of \$38,698.89 available for the work of the Laboratory. The above amount being insufficient, the Special Session of the Legislature authorized a loan of \$15,000 to enable the work of the Laboratory to be carried on, making a total of \$53,698.89 available for the work of the Laboratory during this year.

1921. The Legislature meeting early in January of this year was asked by the Board to amend the State law restricting the salary of the executive officer of the Board to \$3,000 annually, so as to make the salary \$5,000. Such an amendment was passed. A further request from the Board was that legislation be enacted removing the inspection tax of forty cents from privies coming under the supervision of the Board of Health. Such an amendment to the State-wide Privy Law was also enacted. A bill was introduced in this session of the General Assembly under the initiative of Hon. Emmet H. Bellamy requiring a physical

examination of all applicants for marriage and making issuance of license contingent upon the physical qualifications of the applicant. The State Board of Health approved and supported Mr. Bellamy's bill, realizing, as did the author of the bill, that the proposed legislation was but a step in the right direction and was, therefore, rather loosely drawn and left many things to be desired. The bill finally passed in amended form as chapter 129, Public Laws of 1921.

The general health of the State for 1921, as indicated in the vital statistical records for that year, published by the United States Bureau of the Census, was good, and there was an improvement in reduced death rates for a number of diseases, as well as a reduction in the general death rate over previous years.

Another general condition of State-wide importance with a vital bearing on the work of the Board of Health which had to be taken into account was a considerable amount of misunderstanding between respectful groups of the medical profession and the Board of Health regarding matters of policy. Many physicians, men in good standing professionally and men with high civic ideals, seemed to feel that the Board of Health had no well-considered and reasonable objectives in the field of public health as it is related to that of private practice. This general condition was responsible for the Board of Health seeking and availing itself of opportunities to meet the profession, both in county, district and State societies, and to discuss with the profession what it conceived to be the proper relation between public health activities and professional practice. This subject was presented to and considered by the State Medical Society in its conjoint meeting with the State Board of Health at Pinehurst in April, 1921. See transactions Medical Society of the State of North Carolina, pages 472-506. As a result of these various conferences between representative men engaged in public health work and the profession, the general condition of misunderstanding and some little friction had disappeared to a large extent by the latter part of the year. Nevertheless, the results of contact between those engaged in social medicine and private practice were such as to encourage further conferences and efforts to bring about a fuller recognition of mutual interests on the part of the public and the profession, and the ultimate adoption of a program of relations which would be to the mutual advantage of both parties.

Perhaps the most important change inaugurated in State health administration during this year was the adoption of a cost basis for standardizing and measuring the efficiency of public health work in those counties in which the State participated financially. This new principle is fully described in the State Board of Health Bulletin for January, 1922, and a further discussion of cost basis for public health work is unneces-

sary here except, perhaps, to say that it is apparently at least one of the first attempts to introduce the cost system of industry into government.

The Bureau of Venereal Diseases, in charge of Dr. Millard Knowlton, established as a part of the war-time activities of the Board in co-operation with the Bureau of Venereal Diseases of the Federal Government, was combined with and made a part of the work of the Bureau of Epidemiology, under the general direction of Dr. J. S. Mitchener.

Details of the activities of the Board are enumerated elsewhere.

Funds available during this fiscal year and their distribution are shown in the following tabulation:

1921

Receipts

State Appropriations	\$275,000.00
International Health Board.....	13,077.24
U. S. Public Health Service.....	15,164.81
American Red Cross.....	6,987.72
Bureau of the Census.....	3,499.17
Counties	111,996.71
License Fees	6,366.40
Miscellaneous	7,092.37
Total.....	\$439,184.42

Distribution

Executive Department	\$ 54,517.50
Bureau County Health Work.....	178,569.31
Bureau Engineering and Inspection.....	55,374.15
Bureau Epidemiology	13,978.86
Bureau Medical Inspection of Schools.....	60,665.41
Bureau Public Health Nursing and Infant Hygiene..	13,487.72
Bureau Venereal Diseases.....	38,360.73
Bureau Vital Statistics.....	24,230.74
Total.....	\$439,184.42

1922. In order to bring the records of this department into harmony with those of other State departments, in accordance with the act of the General Assembly of 1921, changing the fiscal year of the State so as to begin on July first each year, this report ends with June 30, 1922. It, therefore, covers a period of nineteen months; one full fiscal year from December 1, 1920, to November 30, 1921; seven months from December 1, 1921, to June 30, 1922. Effective February 1, the American Red Cross Society abrogated the agreement existing since 1919 by which it jointly financed, with the Board of Health, the Bureau of Public Health Nursing and Infant Hygiene. This bureau was reorganized April 1 as the Bureau of Maternity and Infancy, for its maintenance the State receiving \$27,259.66 annually from the United States Government in accordance with the Sheppard-Towner Act for the promotion of the welfare of mothers and infants.

Dr. K. P. B. Bonner, of Morehead City, was secured as the director of the reorganized Bureau, with Miss Rose M. Ehrenfeld as supervisor of nursing and Mrs. T. W. Bickett in charge of educational work.

The funds available during this period, and their distribution, were seven-twelfths of the amounts set out under the tabulation for 1921.

The appropriation for the State Laboratory of Hygiene for the nineteen months between December 1, 1920, and June 30, 1922, was \$87,083.33; in addition to this, the Laboratory collected in fees for special work, for antitoxin, and in water taxes, a total of \$30,872.51, making a total of \$117,955.84 available for the work of the Laboratory.

PRESENT ORGANIZATION OF THE NORTH CAROLINA STATE BOARD OF HEALTH

The North Carolina State Board of Health consists of the Board proper and the executive staff.

The Board of Health, as indicated diagrammatically on page 24, consists of nine members, five of whom are appointed by the Governor and four of whom are elected by the North Carolina State Medical Society. The organization of this body includes two important administrative principles: (1) stability of organization and permanency of policies; (2) partnership of the State and the medical profession in the conservation of human life.

The stability of the organization of the Board of Health depends fundamentally upon the Board's freedom from political tinkering. The divorcement of the State Board of Health from politics depends largely upon the manner of selecting the members of the Board. Sudden and marked changes in the personnel of the Board under the present plan of organization are impossible: First, because the members of the Board of Health are appointed for terms of six years and the terms of service of different members expire, not in the same year, but in different years. The appointment of new members of the Board is, therefore, gradual and not sudden. Second, the Board of Health is selected by two parties: one, the Governor, and the other, the State Medical Society. It is far less likely that two parties naming a Board would be dominated by political considerations than where one party names the Board. This division of the appointive and elective power and this provision for the gradual exercise of that power by two parties guarantee the State Board of Health against the sudden changes of personnel and policy associated with a purely political organization. The Board of Health is stable; its individual members come and go, but as an organized body it stays.

This stability of organization is the responsible factor for the permanency of policies adopted by the Board. Political boards elected or appointed for two years or four years are naturally inclined to adopt two and four-year policies, to attempt to make the best showing possible during the short term of their official life. Their administrative thoughts and plans are largely defined by the time limitations of their administration. This is not true of a self-perpetuating body such as the Board of Health; that, as legally constituted, has no limit to its life.

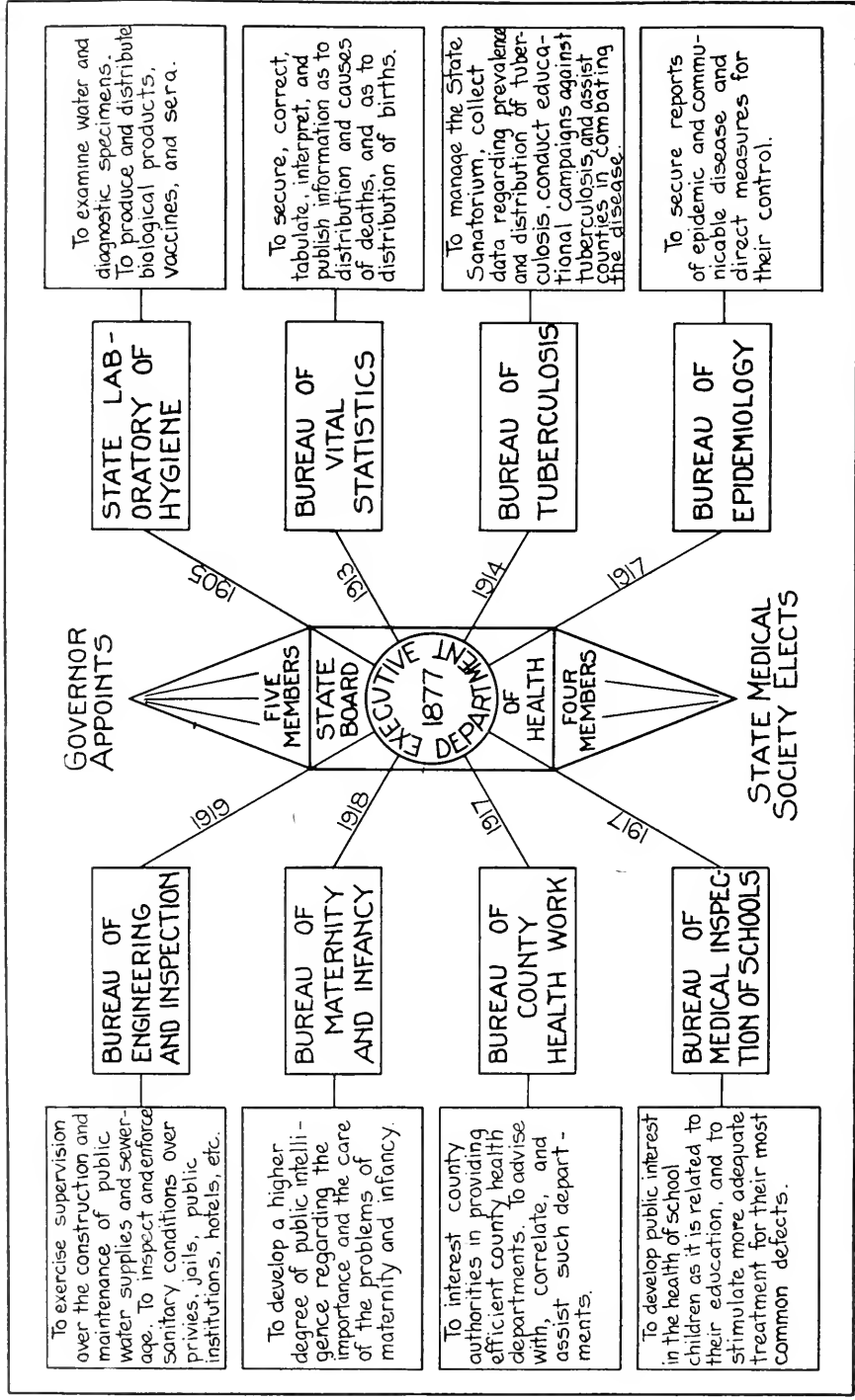
The second administrative principle included in the organization of the State Board of Health is the recognition by the State of the fundamental relation of the medical profession to the work of disease prevention. The State recognizes (1) the debt of society to that profession by which nearly all of the experimentation and discovery on which disease prevention is based, with the exception of the work of Pasteur, was contributed; (2) the interest of organized medicine in the conservation of human life and the peculiar ability of organized medicine to advise the State as to the methods of prevention, and (3) the necessity of securing from the medical profession, first, information in regard to the occurrence of deaths and their causes, and the appearances of epidemics.

The executive staff of the State Board of Health may be divided into the executive office and the various bureaus or special divisions.

The Executive Office.—The executive officer of the State Board of Health should be a man with technical training and experience, and, therefore, should be selected on account of his technical rather than his political qualifications. It is, therefore, right that the Secretary of the State Board of Health, the executive officer, should be selected by a specially qualified committee, that is, the State Board of Health, and not elected in a general election, as would be the case if the office were a political one. The six-year term of office for which the Secretary is elected is in accordance with the idea of permanency of policies.

The Bureaus or Special Divisions of the Executive Staff.—The work of the State Board of Health is large and varied, and is, therefore, apportioned among eight bureaus. These bureaus are each directed by an officer with special talent and training. The different bureaus and their more important problems are fully and clearly indicated in the diagram on page 24.

The Correlation of the Work of the Board.—This is also clearly indicated in the diagram on page 24. The division of the executive staff into special bureaus has the advantage of giving individualism to the work of each bureau and thereby creating a laudable pride and a healthy rivalry among the various bureaus engaged in the general work of the Board. While each bureau is separate and independent of other bureaus, as indicated in the diagram, the work of the entire executive staff is co-ordinated, the work of the Board being given compactness, by the relation of the bureaus to one another through the executive office of the Board.



ORGANIZATION OF THE NORTH CAROLINA STATE BOARD OF HEALTH AND EXECUTIVE STAFF

THE INVESTMENT IN PUBLIC HEALTH

North Carolina today holds rank as one of the most healthful States of the Union. For the past two years this State has maintained the highest birth rate, and at the same time has had a death rate below the average death rate of the United States registration area which now comprises approximately 80 per cent of the population of the country. Coincident with the tremendous development of agriculture and industries during the years of the present century has been an improvement in general health conditions no less remarkable.

On account of its geographical location the State is especially susceptible to two semi-tropical diseases, malaria and hookworm disease. On account of its predominating rural population typhoid fever and other fecal borne diseases have largely affected the public health. Yet today hookworm disease is becoming rare in the State; malaria is making a last stand in certain sections of the State as yet undrained or only partially developed agriculturally; and typhoid fever has been removed as a major factor in the public health.

The vital statistics records for the State as compared with those of the nation show that North Carolina has made a greater degree of improvement in the health of its people since 1900 than has the country as a whole. In 1900 the death rate for the registration area was 17.6 per thousand of population. At that time North Carolina had no accurate records, but it is estimated that the death rate for the State was approximately 22 per thousand of population. This very high death rate has been steadily decreased year by year until in 1921 the State had a rate of 11 per thousand of population as compared with a rate of 11.7 for the country as a whole.

This marked reduction in the death rate is the more noteworthy when considered in connection with the high birth rate. In 1921 the latter was 33.4 per thousand of population, for the second successive year being the highest rate in the United States. This means an addition annually to the population of a large group which is most susceptible to a number of fatal diseases. Despite this large annual infant population, however, the mortality rate among infants has been reduced, and the State stands well toward the top in this particular.

Tuberculosis, which holds a place throughout the world as one of the major causes of death, in 1921 claimed more than a thousand less victims in this State than in 1914, the first year for which dependable records are available. The total number of deaths from this cause in 1921 was 2,641, giving the State a rate of 98.4 per hundred thousand, or slightly under the rate for the registration area. This enviable record was made despite the fact that nearly five hundred deaths from this cause were of non-residents, patients at government or private hospitals maintained in North Carolina because of its excellent climatic conditions. This rate is far under that of any other Southern State, with the single exception of Florida.

Sustaining the records of the vital statistics of the State were the findings of the United States Government in connection with medical examinations made of men called for military duty under the Selective Service

Act. Figures are now available on the basis of a total of 2,510,791 men examined, of which number 49,350 men were from North Carolina. This study gives a cross-section of the physical condition of the male population at an age when physical defects that may shorten life are beginning to appear, and may be taken as a good picture of the general physical condition of the people.

These statistics show that North Carolina averaged fewer rejections than the country as a whole, and on individual points ranked well above the average. As compared with the entire country, there were in this State fewer defects per thousand, fewer defective men per thousand, fewer mechanical defects, less hernia, less underweight, fewer defects of the eyes, of the ears, of the throat, less organic heart disease, and less defective and deficient teeth.

The State today is perhaps the best sanitated State in the Union, considering its predominant rural population. It is the only State having State laws requiring the sanitary disposal of human excreta. Practically the entire urban population is now served with public water supplies and water sewerage. The semi-urban and village and a large portion of the rural population is protected by a system of sanitary privies which are required to be built and maintained in accordance with plans and specifications approved by the State Board of Health.

Twenty-nine counties of the State now have efficient county health departments, directed by trained men who devote their whole time to the public health interests of their respective communities. In sixteen additional counties public health nurses are doing valuable work. These counties comprise about 60 per cent of the population of the State.

The Money Outlay

To carry forward the program of public health work a total annual appropriation of approximately \$580,000 is available. This is made up of the following sums: appropriated by the State for the Board of Health and its several divisions \$275,000; appropriated by the State for the Laboratory of Hygiene \$55,000; appropriated by the counties \$250,000. This is exclusive of sums appropriated by the State for hospitals, including the sanatorium for the treatment of tuberculosis, and of sums appropriated by counties and municipalities for local hospitals.

Specific Returns

Item 1. The State Laboratory of Hygiene made examinations and furnished biological products to citizens of the State to a total value of \$925,162.70. That is, if this State agency had not been in existence, the work done by it at current commercial rates would have cost that sum.

Item 2. During the past nineteen months the State Board of Health, through its officers and in co-operation with the physicians of the State, has given complete anti-typhoid vaccinations to 125,684 citizens. These immunization treatments without the activity of the Board would have cost \$2 each, a total of \$251,368. Through the same means 35,609 people were vaccinated against smallpox, at a cost value of \$35,609. During the same period 20,888 children were given toxin-antitoxin to render them immune from diphtheria, at a cost value of \$62,664. The vaccinations,

then, against typhoid fever, smallpox and diphtheria, carried out under the direction of the Board of Health, otherwise would have cost \$349,641.

Item 3. During this period 85,000 open-back, disease-spreading, insanitary privies have been replaced either with privies of an approved type properly maintained under inspection, or by sewer connections. On the basis of experience it costs about \$2.50 to reach and persuade the average citizen to build a sanitary privy. Applying this cost figure this piece of work would have a cost equivalent of \$212,500.

Item 4. Through the system of medical inspection of schools maintained for finding defective school children, 44,002 children received free dental treatment in the public school clinics; 51,294 permanent fillings were placed; an additional 6,000 children were examined by the dentists but not treated. This work, if done at prevailing dental rates, would have cost the parents of these children \$220,010.

Item 5. Following up the preliminary examinations made by teachers, 134,093 school children were re-examined by specially trained physicians or nurses. Of those discovered suffering with diseased tonsils or adenoids, 5,093 were operated upon at a cost not exceeding \$12.50, while approximately one-half were treated without any charge. The ordinary cost would have been \$178,255, or a saving of \$146,424.

Item 6. In clinics under the supervision of the Board 63,756 treatments for indigents suffering from venereal diseases were given, at a cost value of \$127,500.

Item 7. Outside agencies have been interested in financially aiding health work in the State. Included in contributing agencies have been the International Health Board, the United States Public Health Service, the American Red Cross, the Children's Bureau of the U. S. Department of Labor, and the counties of the State. The gross sum so secured has been approximately \$320,000.

Concluding briefly, the saving in cost values alone to the people of the State, with numerous minor items not considered, has been \$2,301,237.

Cash Dividends Paid

On the annual basis of \$580,000 available for public health work, the amount for the period of nineteen months, the period covered by this report, would be \$918,333. On this investment on seven major items of work there is shown a return in value of \$2,301,237. The cash dividend paid to the citizens of the State has been at the rate of \$2.50 for every dollar spent.

Dividends in Vitality

While cash dividends have been earned at a gratifying rate there has been an even greater earning in terms of vitality that are difficult to reduce to dollars and cents. On certain items of work it is easy to arrive at a value. If the Laboratory does a certain number of Wassermann examinations the usual charge for such service can be ascertained, and the value of such work accurately calculated. On the other hand there are many returns which are just as definite but are difficult if not impossible of being calculated in terms of money value. When typhoid fever and smallpox have been almost entirely eliminated from the State every one realizes that an enormous cash saving has been effected in bills not

incurred to physicians, nurses, druggists, and undertakers, and an even greater amount saved in wages earned and continued life and health.

Economists have calculated the average cost of illness at \$2 per day, and the economic value of the average life at \$4,000. On this basis some idea of the economic saving to the State brought about by the reduction in the death rate, and the consequent lessening of illness, may be obtained.

As compared with 1916, there were in 1921 4,979 less deaths in the State, though the population had shown during the five years a substantial increase. Experience has shown that for every death in a population group there are 700 days of sickness. Then there was not only a saving to the State of 4,979 lives for the years, but also of 3,485,600 days of illness.

On the basis of values previously set forth, this means a saving to the State during the year of \$26,886,600.

Intangible Dividends

There are many important items of work of the Board which will not admit of being grouped among those earning a cash dividend, or among those directly earning a vital dividend. Yet these items are essential, and they earn a return of such a nature that it may be listed only as intangible. A few of these are here given:

Item 1. During the past nineteen months the Bureau of Vital Statistics has supervised and directed the work of 1,419 local registrars; has kept in close touch with the 2,300 physicians of the State, the 4,000 midwives, and the 600 casket dealers, that is, those immediately concerned in a business way with births and deaths; has recorded and classified, according to location, county, town, township, according to race, age, and according to 189 causes of death certificates for 48,112 deaths, 137,070 births, and 12,658 still-births. This is the bookkeeping work of the Board. To do intelligent work it is essential to know how many deaths there are annually, where they occur, their cause, and the age and race of the decedents. To know the natural growth of the population, the location of the growth, and the race, is equally as essential. The records, moreover, have an important legal value.

Item 2. The Board now has under supervision 137 water supply systems serving approximately 600,000 people and valued at \$35,000,000; during the past nineteen months 31 sets of municipal plans were examined and approved, valued at \$3,250,000; complete overhauling of filter plants is in progress or authorized at Albemarle, Elkin, Fayetteville, Henderson, Lumberton, Raleigh, Winston-Salem, Wilmington; complete rebuilding of water plants in progress or authorized at Charlotte, Forest City, Greensboro, Hendersonville, Hertford, Newton, Lexington, Gastonia, Wadesboro; repairs and additions in progress at Chapel Hill, Shelby, Hamlet; sterilization treatment plants installed at Black Mountain, Brevard, Andrews, Bryson City, Marion, Murphy, Tryon, Aberdeen, Carthage, Weaverville, Hazelwood.

Item 3. A total of 9,323 expectant mothers, and 10,052 mothers with infants, have been aided through a system of correspondence and with carefully prepared literature in protecting themselves and their unborn children against the dangers of pregnancy and labor, and advised as to the

raising of their infants. The number of mothers applying for this service has been constantly growing, indicating the appreciation and need for it.

Item 4. An educational campaign against preventable disease has been waged through the Health Bulletin, a monthly publication with a circulation of 53,000 copies, and the distribution of 3,500,000 pieces of literature on various health subjects.

Item 5. Health departments under the direction of trained men have been organized in eight counties, increasing the total number of counties in the State having efficient whole-time health departments to twenty-nine. In addition an important demonstration in malaria control has been inaugurated in an eastern county.

STATE LABORATORY OF HYGIENE

The following is a report of the work of the State Laboratory of Hygiene from December 1, 1920, to June 30, 1922:

Specimens examined:

Sputum -----	3,323
Swabs for diphtheria -----	3,745
Widal Agglutination tests -----	1,801
Malaria -----	508
Intestinal parasites -----	2,146
Brains for rabies -----	1,083
Wassermann tests -----	30,182
Gonococci -----	1,072
Water -----	5,031
Tumors -----	264
Miscellaneous -----	833
Total -----	49,988

Vaccines and antitoxins made and distributed:

Diphtheria Antitoxin (units) -----	198,794,000
Pasteur Antirabic Treatments (21 doses each) -----	1,178
Typhoid Vaccine (doses) -----	862,765
Smallpox Vaccine -----	212,928
Whooping Cough Vaccine (doses) -----	28,721
Tuberculin (cc) -----	54
Autogenous Vaccines -----	73

Vaccines and antitoxins distributed (not made in this Laboratory):

Tetanus Antitoxin (units) -----	3,313,500
Diphtheria Toxin-Antitoxin Mixture (doses) -----	114,860
Pneumococcus Vaccine (doses) -----	522

No attempt is made, nor can be made, to estimate the value of the preservation of life and health which may have been accomplished by the work just outlined, but some of the results can be given a definite and accurate financial value. If there had been no State Laboratory of Hygiene in existence, this work would have cost the citizens of the State the following amounts:

30,182 Wassermann tests @ \$5 -----	\$150,910.00
5,031 water examinations @ \$5 -----	25,155.00
14,775 other examinations, averaged @ \$2.50 -----	36,937.50
862,765 doses Typhoid Vaccine @ 50c -----	431,382.50

28,721 doses Pertussis Vaccine @ 50c-----	14,360.50
212,928 doses Smallpox Vaccine @ 15c-----	31,939.20
522 doses Pneumococcus Vaccine @ 50c-----	261.00
114,860 doses Toxin-Antitoxin @ 50c-----	57,430.00
1,178 Pasteur Antirabic Treatments @ \$25-----	29,450.00
2,209 packages Tetanus Antitoxin @ \$3.50-----	7,731.50

Diphtheria Antitoxin:

5,921 1,000 unit packages @ \$2.00 -----	\$ 11,842.00
786 3,000 unit packages @ \$3.50 -----	2,751.00
5,293 5,000 unit packages @ \$5.00 -----	26,465.00
14,473 10,000 unit packages @ \$7.50 -----	108,547.50
	149,605.50

Total-----\$925,162.70

For these nineteen months the receipts are as follows:

Appropriation -----	\$ 87,083.33
Water taxes -----	12,423.26
Sales biological products-----	16,377.38
Fees -----	2,071.87

Total-----\$117,955.84

BUREAU OF VITAL STATISTICS

Character of Work

OBJECTIVES

The objective of the Bureau of Vital Statistics is to secure a permanent record of the more important facts concerning the birth and death of every citizen of the State of North Carolina, and from such records to prepare card indices and tabular classifications in such manner as to make readily available, on inquiry, the following information:

1. (a) The total number of births occurring annually in the State; (b) the birth rate of the State, that is, the number of births per thousand of the population; (c) the birth rates by races, white and colored; (d) the number of illegitimate births; (e) the number of still-births attended by physicians; (f) the number of still-births attended by midwives; (g) the number of white births attended by physicians; (h) the number of white births attended by midwives; (i) the number of colored births attended by physicians; (j) the number of colored births attended by midwives; (k) all of the foregoing data as to births with respect to each county and city. These facts permit of comparisons of one part of the State with another, of the birth rate of the two races, and of the birth rate of this State with that of the other States and other countries. Such information is necessary in forming conclusions as to vital conditions in North Carolina and in the enactment of suitable legislation for dealing with these conditions.

2. (a) The number of deaths occurring in the State of North Carolina annually; (b) the death rate, that is, the number of deaths per thousand of the population; (c) the number of deaths, by races, and the death rates by races in North Carolina; (d) the number of deaths among infants and young children as compared with the births, and the total deaths as compared with the total births, with net gain in population; (e) the total number of deaths by months and year from each of the 209 causes appearing in the International List of Causes of Death; (f) the number of deaths according to age and to occupation; (g) the number of "seasonal" deaths according to months; (h) all of the foregoing data classified according to county, town and city. This information is absolutely necessary to understand vital conditions in the State; to know where health

work is needed, against what causes of death health measures should be directed; and whether the work of health departments is associated with a decrease or no decrease in death rates.

3. Under one and two, information necessary for the public welfare, and available under the operation of the vital statistics law, has been briefly indicated. But the vital statistics law not only supplies information to legislatures, State and county commissioners, and other administrative bodies, which is necessary for framing conservation measures for human life, but it also records facts which may at any time become of great value to the individual. In matters of tracing ancestry, birth records are invaluable; also in matters of proving age where the fact of age is in question, as for voting, as for the right to marry, as for the right to enter certain industries, as to entering school, as to liability for military service, etc.

METHODS

The Bureau of Vital Statistics secures the birth and death certificates for the births and deaths occurring in North Carolina through approximately fourteen hundred local registrars, appointed by the chairmen of the boards of county commissioners for the various townships and by the mayors for the various incorporated towns and cities of the State. The duties and powers of the local registrars are defined in chapter 109, section 22, Public Laws of 1913. The county pays the local registrar fifty cents for each birth and death certificate furnished by them to the office of the State Registrar at Raleigh. The vital statistics law makes it the duty of the doctors and midwives in attendance on a birth to file a birth certificate with the local registrar of the district in which the birth occurs and makes the undertaker, or person acting as undertaker, responsible for the filing of the death certificate. The birth and death certificates filed with the local registrars of the State are sent to the State Registrar on the fifth of the month succeeding the month in which the birth or death occurred. The certificates received in the office of the Bureau of Vital Statistics are examined, and if incorrect or incomplete (as a large per cent of them are), effort is made to secure the information necessary to complete them. Every parent of a legitimate child whose birth is reported to this office is sent a card advising them of the date of birth and whether or not name appears on the certificate. This gives the parent an opportunity to send us name of the child in case it does not appear on certificate, or to make such change in name or date of birth necessary to make certificate an accurate record of birth. The certificates are then classified and tabulated according to county, townships and registration districts, according to races, according to age at death, according to cause of death, according to death rates and birth rates, etc., in order to make readily available, upon request, the information mentioned under the heading of Objective.

ROUTINE WORK OF BUREAU

The routine work of the Bureau of Vital Statistics is indicated in the following table: This covers period from December 1, 1920 to June 30, 1922, inclusive.

Letters received	19,674
Casket dealers' reports received	8,279
Supplemental reports received	3,662
Cards received giving names of children	24,099

Violation blanks received-----	165
Report cards received from local registrars-----	19,576
Acceptance papers received (local and deputy)-----	2,275
Appointment cards received-----	690
Appointment sheets received from chairman-----	100
Individual letters written-----	15,515
Form letters sent-----	21,821
Postals sent-----	70,981
Packages of supplies sent-----	7,852

Certificates received:

Births-----	137,070
Deaths-----	48,112
Still-births-----	12,658
Total-----	197,840

Indexing:

Cards made-----	192,573
Cards proof-read-----	192,599
Cards assorted-----	219,574
Cards filed-----	207,780
Cards copied on sheets for permanent index-----	82,086
No. sheets (75 cards to sheet) proof-read for permanent index-----	2,749
Credit certificates sent to local registrars-----	4,197
Certified copies made-----	3,471
Tables made-----	123
Cards punched and proof-read-----	35,486
Cards assorted for tabulation-----	31,758
Letters multigraphed-----	35,796
Transcripts made and proof-read-----	175,065
Transcripts and certificates stamped with serial number-----	80,912
Cards furnished Dr. Mitchener giving names of decedents from reportable diseases-----	1,332
Cards furnished Dr. McBrayer giving names of decedents from tuberculosis-----	3,841
Tabulation of births-----	15 Months Complete
Physician's record of births (by name)-----	3 Months Complete
Names of decedents sent in by casket dealers checked with death certificates on file in this office-----	approximately 17,784
Number certifications made in triplicate-----	4,200

RESULTS OBTAINED

Without going into unnecessary detail, it may be said that the objective of this Bureau, as aforestated, has been reached, and that all of the information with its vital bearing upon the public health needs of the State and with the public health accomplishments of the State is readily and completely available.

As a mere indication of the practicable value of the work of this Bureau, we may point out the fact that the birth rate of North Carolina is very high, the highest in the United States, and that the death rate in North Carolina, notwithstanding the high birth rate, giving us an exceptionally large age group of tender years with high fatalities, is exceptionally low, one of the lowest of any State on the Atlantic or Gulf Coast. To be brief, the vital records of the State show that North Carolina is one of the healthiest States in the Union.

Another sample of information, in 1916 there were 3,517 deaths from tuberculosis with 35,170 cases. In 1921 there were 2,641 deaths from tuberculosis with 26,410 cases. Another sample of information obtained through the Bureau of Vital Statistics is the record of the State in the decrease of typhoid fever as indicated in the following table of deaths and cases of this disease during the last few years, that is, the eight years for which we have had a vital statistics law with a record of deaths: (Note.—Cases are estimated on known average fatality of 10 cases per 1 death.)

Year	Deaths	Cases
1914	839	8,390
1915	744	7,440
1916	700	7,000
1917	628	6,280
1918	502	5,020
1919	427	4,270
1920	322	3,220
1921	307	3,070

But the most far-reaching result of the Bureau of Vital Statistics is the quickening of public conscience to the need of sanitation and preventive medicine by showing just how many people needlessly perish in each particular county every year from preventable causes.

WORK OF THE BUREAU OF MEDICAL INSPECTION OF SCHOOLS

Character of Work

OBJECTIVES

The object of the work of the Bureau of Medical Inspection of Schools is (1) to arouse the teachers of the elementary schools of North Carolina to the necessity of making the same efforts to teach the children things they should know for the development of their bodies and for the protection of their health that they make for their intellectual advancement; (2) to discover the children who have remediable defects, and to have them treated while curable and before the condition becomes chronic.

METHODS

In order to explain the methods of work in this department it is necessary to consider the methods in relation to the objectives.

Method for Objective 1. Written instructions for teachers have been prepared covering every phase of medical inspection of school children. Cards for recording the exact history and results of the preliminary physical examination of each child have been prepared. All this literature has been placed in the hands of the teachers, county by county, as the work progressed. Lectures by competent physicians and specially trained nurses and others have been made direct to teachers individually in small groups and in large institute gatherings. Competent officials have made examinations of children in the presence of teachers to demonstrate by example the need for the examination, the purpose, and how to do it. Health talks in simple language have been made to the children from the first grade up. Leaflets and pamphlets on health subjects, simply written, have been placed in their hands.

Method for Objective 2. The methods devised to discover the defective children are: (2) The teacher, after consultation with the parents when necessary and after personal study of each child, records on a prepared card the findings of such preliminary examination; (b) The cards are sent to the Bureau of Medical Inspection of Schools of the State Board of Health at Raleigh. The Bureau has competent agents who carefully study and classify these cards into two groups, those representing supposedly normal or supposedly defective children. Immediately following this study this agent, generally a trained nurse, visits the county and makes a re-examination of all children reported suffering from common defects; (c) Those of the children thought to be greatly in need of medical, surgical or dental service are advised of the fact together with their parents, but before treatment is finally arranged for competent medical examination is made; (d) Special arrangements are made for club operations and dental treatment, results of which are described under the head of Results Obtained of this department.

ROUTINE WORK

(Nineteen months period ending June 30, 1922.)

Letters received -----	5,093
Letters written—Individual -----	4,397
—Multigraph -----	5,570
Total -----	9,967
Articles written—Bulletin 3 ----- words	21,300
—Other publications 14 ----- words	8,580
Pamphlets prepared, 1 ----- words	16,000
Days spent out of the office on official business -----	55 1/2
Pieces of literature distributed -----	551.128
Addresses delivered—Number -----	1,679
Attendance -----	102,645

MONTHLY AVERAGE

Letters received -----	268
Letters written—Individual -----	231
—Multigraph -----	293
Total -----	524
Articles written -----	1 1/2
Days spent out of office on official business -----	3
Pieces of literature distributed -----	29.006
Addresses delivered—Number -----	88
Attendance -----	5,402

FORCE EMPLOYED

Director of Bureau, one full-time physician, six full-time dentists, twelve part-time dentists, six full-time trained nurses, six part-time trained nurses, one stenographer, one part-time clerk, one hospital orderly and truck driver.

BUDGET

Annual amount received from Executive Department -----	\$9,758.92
Annual amount received from special State funds -----	40,000.00
Amount received from counties -----	3,069.14

RESULTS OBTAINED

Some of the tangible results of the work of this department may be enumerated as follows:

1. Through the system of medical inspection organized and maintained by this department for finding defective school children, 44,002 children have received free dental treatment in the public school clinics during this period, paid for entirely by funds expended through this division of the State Board of Health; 51,294 permanent fillings have been placed, thereby saving that many permanent teeth which would have been otherwise lost. The economic value of this specific assistance, as well as the educational influence on those children treated and the more than 6,000 additional children examined by the dentists but not treated, cannot be worth less than \$10 per child treated or \$440,020. The dental clinics were conducted in 64 counties.

2. Following up the preliminary examination first made by the teachers and reported on the proper cards, specially trained nurses sent out by this department have re-examined 92,566 school children. These children had been reported by the teachers as possibly suffering from common defects. Most of them were found to have one or more of the common physical defects, such as decayed teeth and diseased throats. No possible estimate of the immense educational value can be placed on this service to public school children by teachers and nurses.

3. Tonsil and adenoid clubs have been originated and put into operation by this bureau for the purpose of following the examinations with treatment when needed. This activity has embraced 21 counties in which clinics have been held. A total of 1,870 school children have been operated on in these clinics without the loss of a single life. The financial equivalent of one of these operations negotiated through private methods, without considering the far-reaching effect on the whole life of the child of neglecting to have this important operation done, cannot be less than \$50. In fact the operation alone costs more in many places of the State. Thus the total money value of 1,870 successful operations is certainly not less than \$93,500. But the most important consideration is that a very small percentage of the children so essentially helped could even have had the opportunity otherwise.

WORK OF THE BUREAU OF ENGINEERING AND INSPECTION

Character of Work

This Bureau was created by an act of the General Assembly, February 24, 1919. The Bureau was organized May 1, 1919. Active field agents began work October 1, 1919. The activities of the Bureau are dual in nature and will therefore be described under two headings: that work which is purely engineering in nature and the activities of the Sanitary Inspection Section.

Engineering Section

OBJECTIVES

1. The installation of public water supplies and sewerage systems for communities that have not heretofore had the advantage of such health protection and conveniences.

2. The stimulation of improvements in existing water supply and sewerage systems for the better protection of the public health.

3. Safeguarding against unsafe, unsuitable, inefficient, inadequate or otherwise faulty installations of public water supply and sewerage improvements.

4. Assisting municipalities in the development of safer, more effective and more efficient methods of operation of water purification plants.

5. The education of the public and the officers of municipalities to a more comprehensive understanding of the importance of the proper selection, development and supervision of public water supplies.

METHODS

In discussing the methods of this section it will be necessary to refer to the aforementioned objectives.

Method for Objective 1. Every possible opportunity for the stimulation of public sentiment for the installation of public water supply and sewerage systems is embraced. This objective is closely related to and assisted by the sanitary privy inspection. The sanitary improvement effected by the installation of sanitary privies stimulates a desire for permanent sanitation of the convenience afforded by sewerage which very often results in the installation of water and sewerage systems. City officials are interviewed and clubs, chambers of commerce and mass meetings are addressed in the interest of these improvements.

Method for Objective 2. The improvement of water purification equipment has received the principal attention of this section during the period covered by this report. A detailed survey was made of all the public water supplies in the State, in which special study was made of the adequacy, completeness, suitability and effectiveness of purification plant equipment. A study was also made of the methods and efficiency of operation. This information obtained is studied, together with the plans and specifications in our files, and the records of tests made of samples of water submitted monthly by the different water supplies afforded a basis for judging the deficiencies of the various plants in equipment and operation. It was found that there are 137 public water supply systems in North Carolina serving the homes of 600,000 persons or one-fourth of the entire population of the State. Twenty-two of these supplies are obtained from surface drainage and are unfiltered, 51 are obtained from surface drainage and are filtered, and of the remainder, 10 are shallow ground water supplies and 54 are deep well supplies. The 22 unfiltered surface water supplies, located in the mountain section where the streams are clear and free from sediment, serve the homes of 51,000 persons. The 51 filtered surface water supplies found through the central and eastern portion of the State serve the homes of 415,000 persons, thus constituting the source of about three-fourths of the water furnished by all the public water supplies of the State, while the entire 64 ground water supplies serve only 133,340 persons, the 10 shallow ground water supplies serving 18,180 persons, and the 54 deep well supplies serving 115,260. Since the surface water supplies constitute the source of three-fourths the water supply, including all the largest cities of the State and most of second size cities, work was begun first on this class of supplies.

After careful studies of each plant, along lines already mentioned, a full and complete report, stating the defects in the plant equipment, together with recommendations, is prepared and submitted to the board of aldermen or commissioners. The important recommendations are gone over with the superintendent of waterworks and chairman of the water committee or the mayor before or after official submission of the report, and whenever possible a representative of the Bureau attends the board meeting at which the report is presented.

Method for Objective 3. All plans and specifications for water supply and sewerage improvements are required by law to be submitted to the State Board of Health for approval. The plans and other data are carefully studied and checked, with particular reference to the public health features involved and the adequacy of the proposed improvements to meet future demands. In giving our decision the principles of the best modern standard practice are rigidly adhered to. In this connection the engineers have been asked to co-operate with us by adhering rigidly to recognized standards in water purification plant design and equipment, and urge their clients not to install makeshifts which, although curtailing immediate expenditure, do not afford adequate public health protection and result finally in a loss greater than the immediate saving.

Method for Objective 4. The matter of securing most efficient results in the operation of water purification plants is so closely related to and dependent upon equipment that the entire discussion in paragraph two of this section applies in the methods obtaining this objective with equal force. The final and ultimate objective of the work of this department is to raise the standard of operation methods to highest degree of efficiency. Our survey of the water supplies, however, revealed the equipment of the water purification plants in general to be incapable of the most efficient operation. In brief, 37 of the 51 filter plants required either complete rebuilding or extensive overhauling, while in the remaining 14, minor defects of equipment were found. Intensive work on operation, therefore, was not undertaken until sufficient reconstruction and overhauling to make effective operation possible had taken place. Inasmuch as the survey disclosed also that there is over \$35,000,000 invested in water supply and sewerage systems in North Carolina, and the annual cost of operation is between three and four million dollars, it is evident efficient operation of these utilities is an important economic consideration to municipalities, in addition to the public health protection afforded. Our efforts are therefore directed toward the inauguration of accurate control and supervision of the larger plants, aided by simple tests, conducted at the plant for the exact determination of the chemical and bacteriological condition of the raw water and water in the various stages of purification as it passes through the plant. The efficiency or capability of pumps, generators and other machinery to effectively handle the working load and peak loads imposed upon them is sufficiently evident to be detected by a good mechanic, but the operating efficiency of a water purification plant, especially a filter plant, can only be determined by constant chemical and bacteriological record of the plant's accomplishments, conducted by an operator sufficiently familiar with the principles involved and of suffi-

cient experience to properly interpret these results. In the case of the smaller plants a program of intensive instruction of the plant operators has been undertaken.

Although attention has been devoted principally to the filtered surface water supplies, since such supplies constitute the source of supply for three-fourths of the 600,000 persons directly served by public water supply, attention has also been given to the unfiltered surface water supplies and the ground water supplies which constitute the other 25 per cent of the public water supply service of the State.

In the case of the unfiltered surface water supplies the watershed regulations have been made more rigid; sterilization treatment for all such supplies is now required. Surveys of all watersheds of this class of supply have been made and recommendations submitted to the respective municipal officials. All ground water supplies have been investigated, and wherever necessary, recommendations for more effective protection of the source have been submitted.

Methods for Objective 5. The procedures for obtaining objectives 2, 3 and 4 are of equal importance in promoting a general understanding of the importance of protective measures in safeguarding public water supplies. The realization of this objective is further aided by bulletins, articles and addresses to public gatherings.

Sanitary Inspection Section

OBJECTIVE

1. The elimination of the filth-borne diseases due to fly carriage.

METHODS OF OBTAINING OBJECTIVE

1. Intensive education through personal interviews of householders and public officials by sanitary inspectors.
2. Rigid enforcement of the State sanitary laws, with respect to the sanitary construction and maintenance of privies, the sanitary management of hotels, cafes, jails, convict camps and State institutions.

ROUTINE WORK

Office Activities

Letters and postals received-----	7,492
Letters written -----	4,115
Articles multigraphed -----	31,405
Magazines and bulletins received and reviewed-----	417
Articles written -----	20
Forms, etc., prepared-----	25
Vouchers issued -----	547
Telegrams received -----	193
Telegrams sent -----	238
Watershed inspection reports received and examined-----	58
Water analysis reports received and reviewed (polluted)-----	458
Pamphlets, leaflets, bulletins distributed-----	126,973
Licenses, unlawful signs and other supplies-----	168,559
Articles copied -----	353
Reports on water supply investigations written (11 months)---	95
Plans and specifications approved (water)-----	16
Plans and specifications approved (sewerage)-----	15

Plans and specifications disapproved (water)-----	-----
Plans and specifications disapproved (sewerage)-----	1
Days out of office on official business (director)-----	153
Hours spent in conference-----	313

Field Activities

Sanitary Inspection Section:	
Number inspections made-----	151.796
Number prosecutions-----	834
Number hotels and cafes inspected (11 months)-----	537
Number State institutions inspected-----	26
Engineering Section:*	
Number water supply investigations-----	271
Number sewerage investigations-----	8
Number special water supply investigations of two to four days' duration for operation instruction, etc.-----	46

MONTHLY AVERAGE

Office Activities

Letters and postals received-----	394
Letters written-----	217
Articles multigraphed-----	1,653
Magazines and bulletins received and reviewed-----	22
Articles written-----	1
Forms, etc., prepared-----	1
Telegrams received-----	11
Telegrams sent-----	13
Watershed inspection reports received and examined-----	4
Water analysis reports received and reviewed (polluted)-----	26
Pamphlets, leaflets, bulletins distributed-----	6,683
Licenses, unlawful signs and other supplies-----	8,871
Articles copied-----	18
Reports on water supply investigations written-----	9
Plans and specifications approved (water)-----	1
Plans and specifications approved (sewerage)-----	1
Days out of office on official business (director)-----	8
Hours spent in conference-----	17

Field Activities

Sanitary Inspection Section:	
Number inspections made-----	7,989
Number prosecutions-----	44
Number hotels and cafes inspected (11 months)-----	49
Engineering Section:	
Number water supply and sewerage investigations-----	19
Number special water supply investigations of two to four days' duration for operation instruction, etc.-----	3

Results Obtained

ENGINEERING SECTION

1. Eight towns have installed water supply and sewerage systems. Two other towns having water systems but no sewerage systems have installed systems of sewerage.

*Active field work in this division began May, 1921.

2. The work done by the Bureau in connection with securing improvements in water purification plant equipment has met with ready response and co-operation on the part of town and city officials. In the case of the following nine towns complete rebuilding of the water plants is either in progress or authorized: Charlotte, Forest City, Greensboro, Hendersonville, Hertford, Newton, Lexington, Gastonia, and Wadesboro.

Complete overhauling of the following plants is either in progress or authorized: Albemarle, Elkin, Fayetteville, Henderson, Lumberton, Raleigh, Winston-Salem, Wilmington.

Repairs and additions are being made to the following plants: Chapel Hill, Shelby and Hamlet.

Sterilization treatment as an additional safeguard in the protection of the water supply has been provided in all but four of the water purification plants.

Sterilization treatment is also practiced in connection with the following unfiltered surface water supplies: Black Mountain, Brevard, Andrews, Bryson City, Marion, Murphy, Tryon, Aberdeen, Carthage and Weaverville, and the installation has been authorized on several other supplies of this nature, also one deep well system became polluted and sterilization treatment was promptly installed.

3. The towns have been safeguarded in water supply and sewerage installations by the action of the Bureau in rejecting or calling for revisions of plans for proposed improvements. Thirty-one sets of plans have been approved. In several instances long controversies took place with representatives of the towns concerned, but in each instance the plans for proposed improvements were finally made to conform to recognized principles of best engineering practice.

4. The work done by the Bureau in improving operation methods and supervision of water purification plants has met with excellent co-operation on the part of the towns concerned. The following filter plants are now conducted under best recognized systems of control under the supervision of specially qualified operators: Charlotte, Wilmington, Winston-Salem, Proximity and High Point. A partial system of control, but a great improvement over former methods, has been effected in the following plants: Chapel Hill, Durham, and Raleigh. Complete control systems have been authorized for the following towns: Goldsboro and Greensboro.

The public health value of these measures involved is intangible, and since its great value is protective or in the nature of public health insurance, cannot be estimated in mere dollars and cents. There results, however, a real economic saving to the municipalities in greater operation efficiency. As an illustration, it has been found in one of the large towns mentioned above that a saving of \$7,000 in filter chemicals alone was effected as compared with the previous year, in addition to providing the city officials with an absolute knowledge at all times of the quality of water delivered to consumers. In another instance it was found that a saving of one filter washing per day on the average was effected. This item alone amounted to \$5.16 per day or \$1,883.40 per year.

5. Returns from educational measures in the promotion of a more comprehensive understanding of the importance of proper selection, develop-

ment and supervision of public water supplies are, by nature of the problem, not immediate. The results set forth in paragraphs 2, 3 and 4 are only a partial measure of what has been accomplished, since there are many other improvements, both in operation and equipment, that are being seriously contemplated but are not yet officially authorized, and cannot therefore be credited at this time.

SANITARY INSPECTION SECTION

1. As a result of hotel and cafe inspection the hotels and cafes of the State that were found violating the sanitary regulations are receiving general cleaning and overhauling. The standard of hotels and cafes on the basis of cleanliness and sanitary management has improved to a marked extent.

2. As a result of the sanitary privy inspection, 113,222 homes heretofore provided in most instances with open surface privies or no privies at all for the disposal of human excreta have been afforded the protection against filth disease that sanitary privies conducted in accordance with the regulations of the State Sanitary Privy Law provides. Surveys show that 66 per cent of these privies are perfect in the respect of complying with the regulations in every respect. Thus 74,727 of these foci of disease have been eliminated. This affects directly the health of 566,110 persons, and indirectly more than twice this many persons or approximately one-half of the entire population of the State.

WORK OF THE BUREAU OF EPIDEMIOLOGY

(Including Venereal Disease Control Work)

Character of Work

OBJECTIVES

To prevent and control the occurrence of whooping cough, measles, diphtheria, scarlet fever, infantile paralysis, cerebro-spinal meningitis, chicken-pox, septic sore throat, German measles, smallpox, typhoid fever, trachoma, syphilis, chancre, gonorrhea, and ophthalmia neonatorum (sore eyes in the new-born).

METHODS

Section 1—The County Unit

A quarantine officer for each county and city having a separate health department in the State is appointed to be the Bureau's representative in the local field. His duties are as follows:

(a) To secure reports from parents, teachers, and physicians of all cases of communicable diseases.

(b) To keep an accurate record in his office of all reports.

(c) To transmit all reports daily to the Bureau of Epidemiology.

(d) To supply the parent, guardian, or householder, when the disease is reported, with rules and regulations governing that person, with a placard to be posted on the house, and with a pamphlet descriptive of the disease, its dangers, cause, mode of infection, and methods of control.

(e) To inform the teachers in the community where the disease exists that the disease is present, and to supply them with rules and regulations governing the school, and with a pamphlet descriptive of the disease, its dangers, cause, mode of spread, and methods of control, to be distributed through the children to the parents represented in the school.

(f) To make the presence and locations of diseases known to the public by publishing notices in the county paper when the disease appears and advising methods of prevention.

(g) To furnish householders forms to report diseases in their community which have not previously been reported.

(h) To investigate all cases of suspected contagions which have not been reported to determine the nature of the disease.

(i) To enforce the laws, rules and regulations governing the control of communicable diseases.

(j) To make monthly reports to the Bureau of Epidemiology of all the work—educational, administrative, or otherwise—done during the month.

COMPILED MONTHLY REPORT OF COUNTY QUARANTINE OFFICERS

Counties reporting -----	1,861
Number cases reported by householders-----	9,897
Number cases reported by nurses and health officers-----	4,850
Number cases reported by physicians-----	29,389
Number cases reported by teachers-----	2,746
Total number of cases reported-----	51,552
Homes placarded -----	33,018
Articles published -----	1,674
Teachers' certifications -----	5,714
Indictments -----	125

Section 2—The State Unit

To give the reader a fair idea of the work done by the office and field staff of the Bureau, such is discussed under the following heads: (1) office work, being a resume of what is done by the director, stenographers and clerks in the office; (2) field work being the results of the investigations, etc., as done by the director or any member of the staff away from the office; (3) special work for the prevention of typhoid fever; (4) special work for the prevention of diphtheria; (5) special work for the prevention of venereal diseases; (6) special work for the prevention of sore eyes in the new-born.

1. OFFICE WORK

1. The daily reports of each of the communicable diseases are recorded by the Bureau of Epidemiology by the counties in which they occur. These are permanent records of the Bureau and they show the number, location, and increase or decrease in the number of cases of each disease from month to month and from year to year.

2. Weekly telegraphic and monthly written reports of all cases of infectious and contagious diseases reported to the Bureau of Epidemiology are made to the Surgeon General, United States Public Health Service, Washington, D. C.

3. Deaths from reportable diseases registered with the Bureau of Vital Statistics are checked each month to ascertain if "case reports" are filed.

The quarantine officer is queried as to the "negatives" to remove possible error. If he states that no report was made to him, a personal letter is written to the physician by the director of the Bureau. Frequently, when the physician's record justifies it, he is prosecuted.

4. Upon especially prepared record sheets each doctor is credited with every report of reportable diseases he makes. If he signs a death certificate when the cause or contributory cause was a reportable disease, he is given credit if such was reported as a case or demerited if it was found from the procedure mentioned above that no report was made. By this plan we can readily see the record of each physician so far as reporting diseases is concerned.

5. Monthly news letters are issued by the Director of the Bureau to the county quarantine officers. These serve a two-fold purpose: (a) They give "points" of interest on quarantine work to each county quarantine officer and establish contact between all; (b) They remind them of the monthly report being due.

6. Monthly reports of the quarantine officers are given a detailed examination by the Director, and, where it is seen necessary, letters are written to the quarantine officer and the county commissioners of the non-performance of duty.

7. All report cards, blank forms, educational posters, placards, and literature on the reportable diseases, and all rules and regulations governing the control of the diseases, are prepared by the Secretary and the Epidemiologist of the State Board of Health, and distributed to the various quarantine officers by the Bureau of Epidemiology.

8. Each diphtheria, typhoid fever, ophthalmia neonatorum and trachoma case reported receives, in addition to forms sent out by the quarantine officer, special forms from this Bureau concerning the disease.

Summary of Office Work

Letters and postals received-----	16,765
Letters written—Individual -----	18,887
—Multigraph -----	234,889
Total -----	253,776
Questionnaires returned -----	2,542
Oaths of office received-----	80
Telegrams received -----	200
Telegrams sent -----	341
Letters prepared for quarantine officers, number of forms-----	38
Articles prepared for publication by quarantine officers, number of forms -----	15
Number articles prepared for publication based on information from this Bureau-----	224
Number articles prepared for Bulletin material-----	33
Number form letters, records, bulletins, placards, etc., prepared	106
Cases of contagious diseases reported and recorded-----	51,345
Number of deaths investigated from reportable diseases (December, 1920, to June 30, 1922)-----	1,288
Bulletins sent out-----	225,470
Packages of supplies sent out-----	7,222
Number typhoid campaigns directed-----	30
Number toxin-antitoxin campaigns directed-----	22

II. FIELD WORK

The Director or an assistant frequently visits the counties to confer with quarantine officers, physicians, medical societies, or others regarding the prevention and control of diseases under the supervision of the Bureau. The quarantine officer is interviewed to determine:

(a) If the county quarantine officer is doing his duty. His records are examined and he is questioned as to his knowledge of quarantine work. Several cases recently reported are visited to see if proper literature has been supplied to the family and if quarantine was established. Through this intimate contact with the quarantine officers much interest in the work has been created among them with good results.

(b) If the physicians are reporting promptly all cases. These are visited to ascertain the nature of the disease and the reason they were not reported. The person found responsible for neglecting to make the report is dealt with according to law.

(c) The findings in the investigations of counties have been prepared, submitted to the editors, and published in the county papers. These publications give the people an opportunity to know what is going on in the county in disease prevention, and often they inspire some conscientious person to inform us of unreported cases which need to be dealt with.

Epidemics are handled in the following way:

(a) The people in the community are notified by news articles, announcement at meetings, etc., of the presence of the disease and are given instructions as to how to prevent the development of further cases.

(b) A history of each case is solicited so as to show the relation of the case to the usual sources of infection.

(c) In epidemics of typhoid fever, diphtheria, or small-pox, arrangements are made for having the susceptible people of the community protected against the disease by vaccination. The people are notified of such arrangements and are encouraged to avail themselves of the opportunity.

(d) An investigation of the sanitary and hygienic conditions in the immediate vicinity of each case is made.

(e) The facts in the history of the cases and the findings of the sanitary and hygienic conditions are tabulated according to epidemiological methods so that the exact sources of infection are determined.

(f) Recommendations of the necessary measures for the control and prevention of the diseases are made to the proper authorities.

(g) When the nature of the disease is such that public gatherings are permissible, a public meeting is held to advise the public as to the modes of infection, dangers, and measures necessary for the control of the disease, for it is through the co-operation of the public that diseases are controlled.

(h) State-wide publicity is given epidemics to warn the people of the presence of the disease, to force the local authorities to take action to stop its spread, and to educate the people in disease prevention.

Summary of Field Work

Days out of office on official business-----	179
Counties visited -----	173
Quarantine officers visited-----	177

Quarantine officers interviewed-----	162
Doctors, nurses, county officials, and druggists interviewed----	273
Unreported cases, non-use silver nitrate investigated-----	1
Reporters interviewed-----	35
Indictments-----	2
Convictions-----	1
Addresses delivered-----	22
Total audience-----	2,270
Epidemics investigated-----	5

III. SPECIAL WORK FOR PREVENTION OF TYPHOID

Campaigns for giving free treatment to prevent typhoid fever and diphtheria are conducted after the following plan:

1. An agreement is signed by the chairman of the county board of commissioners to pay to the State Board of Health 8 1-3 cents for each dose given. This contract is presented to the Board upon its approval by the medical society or the majority of the physicians after a personal interview.

2. The State Board of Health directs these campaigns.

(a) Several days previous to the beginning of the campaign, which lasts four weeks, a representative of the State Board of Health is sent to the county for publicity purposes. Many of the local physicians co-operate in this by lecturing at schools, mills, etc. Such contributes largely to the success of the work. By posters, press articles, newspaper advertisements, announcements, public lectures, letters, etc., the danger of the disease is shown to the public to awaken their interest.

(b) Physicians who assist in the campaigns give the treatments in their offices and at points in the rural sections convenient to the country people.

Results

Prior to 1921, almost always a medical student or an outside physician was sent into a county to give the treatments. The policy was changed, using local physicians mainly to identify them with preventive medicine. It was hoped that the public would by this method be awakened to the fact that the one to keep them well was the family doctor and not the State Board of Health.

During the year of 1921, twenty-five campaigns were conducted in the counties to be named. In twenty-two of these, one or more local men gave the treatments. This enabled the Board to establish two new records—the number of campaigns conducted and the number receiving three treatments during one year. Such could hardly have been done under the old plan of work. This report included only five counties for the year of 1922, inasmuch as it closes June 30 and not November 30 as formerly.

Table Showing Results of Typhoid Campaigns

County	No. Taking Three Doses
1. Alexander -----	1,320
2. Anson -----	3,855
3. Beaufort -----	2,292
4. Brunswick -----	2,779
5. Burke -----	3,585

County	No. Taking Three Doses
6. Caldwell -----	5,155
7. Camden -----	1,164
8. Carteret -----	1,166
9. Chowan -----	2,203
10. Currituck -----	532
11. Davie -----	2,669
12. Greene -----	4,529
13. Harnett -----	2,103
14. Hertford -----	3,226
15. Hoke -----	1,024
16. Hyde -----	1,698
17. Johnston -----	5,023
18. Martin -----	3,868
19. Montgomery -----	378
20. Pasquotank -----	4,020
21. Perquimans -----	2,136
22. Person -----	3,717
23. Randolph -----	2,988
24. Richmond -----	2,657
25. Rockingham -----	2,093
26. Rutherford -----	2,851
27. Stanly -----	5,325
28. Union -----	9,566
29. Warren -----	3,504
30. Watauga -----	2,912
Total -----	90,338

IV. SPECIAL WORK FOR THE PREVENTION OF DIPHTHERIA

For the first time, in our State or in any other State so far as known, toxin-antitoxin campaigns for the prevention of diphtheria were conducted in 1921 simultaneously with typhoid campaigns and again in 1922. The counties and number taking complete treatments are listed in the following table. Children between six months and six years were advised to take the treatment as in this age group seventy-five per cent of our deaths from diphtheria occur and most of them are susceptible to the disease. That such large numbers were treated has been noticed and commented upon by public health workers out of the State. None other than the family doctor could have immunized so many babies.

Table Showing Results of Toxin-Antitoxin Campaigns

County	No. Taking Three Doses
1. Alexander -----	371
2. Anson -----	1,530
3. Beaufort -----	427
4. Burke -----	498
5. Caldwell -----	552
6. Chowan -----	78
7. Davie -----	560
8. Greene -----	1,238
9. Harnett -----	389
10. Hertford -----	525
11. Hoke -----	247
12. Johnston -----	844
13. Martin -----	329

County	No. Taking Three Doses
14. Montgomery -----	262
15. Person -----	481
16. Randolph -----	624
17. Richmond -----	322
18. Rockingham -----	481
19. Rutherford -----	1,083
20. Stanly -----	877
21. Union -----	904
22. Warren -----	505
Total-----	13,127

V. VENEREAL DISEASE CONTROL UNIT

The effort to control venereal diseases has been along two lines—educational and remedial. Between the date of the last report and June 30, 1921, lecturers were in the field to talk to each race and each sex. Much of the work was in the high schools making use of exhibits. With the adult population films have been used.

The work of the clinics in Asheville, Charlotte, Fayetteville, Raleigh, Wilmington, and Winston-Salem was continued, the State aiding by furnishing arsphenamine or neoarsphenamine, but no pay for personnel. However, the clinics were supplying a comparatively small area in our State inasmuch as only six of our larger cities had them. To try to remedy this, to get treatment for syphilis available to those residing in small towns, and to see to what extent syphilis was prevalent among people unable to pay a private physician for treatment, an assistant was secured to conduct "itinerant clinics."

The medical society was met in every county when possible, to explain the work and to ask that an invitation be extended us to make the study, and that they co-operate by visiting the clinic and referring any case they did not wish to treat. We were to treat only the indigent approved by physicians. Fortunately, this point caused no difficult situation as no others came to the clinic. The idea was endorsed in each of the following counties and demonstrations were conducted: Anson, Bertie, Beaufort, Craven, Edgecombe, Guilford, Halifax, Lenoir, Pitt, Richmond, Robeson, Sampson, Union, Rockingham, Wayne, Johnston, Northampton, and Wilson.

From four to six weeks are allotted to a series of clinic points, spending one or two days each week in a town. After we retire an effort is made to establish the work permanently. The assistant visited his first county November 1, 1921, and since then has made 4,008 Wassermanns, 573 of which were positive (the Laboratory failed to examine about 1,200 of the 4,008 specimens because of large numbers taken during one month), and has given 1,437 doses of neoarsphenamine. With but two exceptions, the work has been continued in every county, and in several, very active clinics have resulted.

The bureau has recently inaugurated a follow-up system to try to keep patients under care of physicians. This has met with the approval of the medical men and results have been satisfactory to all. The physician is requested by letter every month to advise us if each patient is return-

ing for treatment. If not, we mail the doctor a signed letter for him to forward the patients. It sets forth the fact that the law requires one to be treated in many instances, and the patient is urged to be sure he is within the law. The fact that physicians answer about 45 per cent of the inquiries shows they think the plan a good one. Occasionally letters reach us saying the patients returned for treatment.

Summary of Venereal Disease Work

1. Medical:

(a) Requests for arsphenamine:	
Clinics -----	268
Physicians -----	262
Total -----	530
(b) Ampules of arsphenamine distributed:	
Clinics -----	14,041
Physicians -----	1,606
Total -----	15,647
(c) Venereal disease reports received from physicians:	
Gonorrhea -----	5,794
Syphilis -----	5,004
Chancroid -----	364
Balanitis -----	7
Total -----	11,169
(d) Sales reports from druggists-----	3,127
(e) Number sales of V. D. remedies reported by druggists--	8,184

2. City Clinics:

(a) Number of city venereal disease clinics-----	6
(b) Number cases under treatment:	
Syphilis -----	7,570
Gonorrhea -----	2,729
Chancroid -----	305
Balanitis -----	21
Total -----	10,625
(c) Number of visits to clinic for treatment, examination or advice -----	37,001

3. Co-operative Clinics:

(a) Number co-operative V. D. clinics (February 1922, to June 30, 1922)-----	15
(b) Number Wassermanns taken-----	6,046
(No examination made on about 1,200 specimens.)	
(c) Number Wassermanns positive-----	1,239
(d) Number doses arsphenamine administered-----	4,864
(e) Number treatments for gonorrhea, chancroid, etc.-----	202

4. Educational Work:

(a) Lectures given to white audiences (December 1, 1920, to July 30, 1921) -----	372
(b) Lectures given to colored audiences (December 1, 1920, to July 30, 1921) -----	125
Total -----	497
(c) Attendance at lectures (white)-----	23,411
(d) Attendance at lectures (colored)-----	38,623
Total -----	62,034
(e) Motion picture exhibitions-----	83
(f) Attendance at motion picture exhibitions-----	28,386
(g) "Keeping Fit" exhibits made-----	331
(h) Attendance at "Keeping Fit" exhibits-----	18,141

VI. SPECIAL WORK FOR THE PREVENTION OF BLINDNESS

The State law requires that silver nitrate be instilled in the eyes of the new-born babies. To assist midwives and physicians who attend labor cases, the State Board of Health, through the Bureau, furnishes a one per cent solution of silver nitrate in waxen ampules. The physicians and midwives must register their names and addresses with the State Board of Health.

In order to stimulate registration among midwives, a certificate of registration (not one of efficiency) on which is set forth certain things which a midwife must do is given her when she has complied with the law regarding registration. If one midwife sees another with a certificate, she inquires how to get one herself. The fact that so many have sent in, wanting certificates renewed at the expiration of one year assures us that this plan has been worth while.

The Bureau, with the help of nurses from the Bureau of Public Health Nursing and Infant Hygiene and county health officers or nurses working under their direction, has held meetings from time to time giving the midwives more careful instruction about the use of silver nitrate and the conduct of a normal labor.

The following table is a resume of the work of this unit:

Midwives registered -----	2,244
Ampules of silver nitrate distributed-----	\$1,666
Cases of ophthalmia neonatorum reported-----	25
Meetings held for midwives-----	91

BUREAU OF MATERNITY AND INFANCY

Since the publication of the eighteenth biennial report of the State Board of Health, in the early months of 1921, many changes have taken place with and concerning the work in which this Bureau is directly concerned. On April 1, 1922, immediately following the ratification of the Federal Sheppard-Towner Bill, this Bureau was organized under the above name. It succeeded the department known as the Bureau of Public Health Nursing and Infant Hygiene that had been carrying on the work of maternal and infant hygiene for some years. This Bureau differs in many ways from the Bureau it succeeded. The old Bureau was limited in budget, having a yearly income of \$12,000 contributed equally by the American Red Cross and the State Board of Health. The present Bureau is made possible as a result of act of Congress, and is therefore supported jointly by Federal and State funds. With a change in the source of support comes greatly increased revenue until now the annual budget is about five times that of the old Bureau. The enlarged income has made possible and has brought many changes, principally among which may be mentioned the increase in personnel. The Bureau as now constituted is in charge of a director who is a medical man; the limited budget of the preceding Bureau made this impossible. As organized, it has two divisions under the direct control of division chiefs. Enlarged plans have necessitated an increase in the clerical force also. Perhaps the greatest changes, as between the old and the new bureaus, may be found in the

nature and policies of the work. The work of the Bureau of Public Health Nursing and Infant Hygiene, while specially interested in health items having a direct bearing upon maternity and infancy, did not limit its field to these, but in addition thereto encouraged school nursing, communicable diseases, industrial nursing, and the care of the sick. It might be said that its work dealt with a general public health nursing program. The new Bureau is restricted entirely to a program dealing with the promotion of the welfare of maternity and infancy. This is due to the fact that the activities of this Bureau are limited to items approved by the Children's Bureau that has in charge the administration of the Sheppard-Towner Act. It might be of more than passing interest to note right at this point that the registration of midwives and distribution of solution of silver nitrate will be handled by this Bureau as approved items, being transferred from the Bureau of Epidemiology.

Aims and Purposes

The object of the work is to conserve and promote the welfare of expectant mothers and of infants. It is the desire of this Bureau to reduce preventable deaths in these classes to the vanishing point and to assure those spared a more comfortable physical state. That there is an urgent need for this work cannot be doubted since approximately 35 per cent of all the deaths in the State occur in the short period from birth to the close of the second year. There are two significant facts in connection with the infant mortality: the relatively high mortality in rural counties, in some cases amounting to 50 per cent or more of the total, and the large proportion of still-births in the total deaths. The high rural infant mortality is obviously due to a lack of the knowledge of the underlying principles of infant care. The high mortality at birth is to a great degree due to a lack of prenatal education.

Methods

These may be said to be educational in character, since the success of all public health procedure is dependent upon raising the general average of the knowledge of the whole citizenship upon these questions. This educational campaign is being undertaken in three different ways: (a) educational literature mailed from the Bureau, press articles, and publications; (b) lectures delivered by representatives of the Bureau to the public; (c) county programs that contemplate a permanent restricted plan of work having to do with maternity and infancy items only and in charge of a nurse specially trained in this work. The Bureau of Maternity and Infancy is now at work with the Bureau of Tuberculosis on a county program that will include the welfare of childhood through adolescence. The one great handicap of childhood is faulty nutrition, and if perfected this combined program will embrace this important feature. When completed, local activities will probably follow these lines. In this manner it will be possible to reach the great majority of the population in each county directly.

Routine Work

Letters received -----	5,752
Letters sent—Individual -----	4,923
—Multigraph -----	67,896
	<hr/> 72,819
Bureau publications (with Children's Bureau) supplied on request -----	290,596
*Days out of office on official business -----	689
*Addresses delivered (formal) -----	54
Total attendance -----	4,383
Reports prepared -----	84
Articles written—For Health Bulletin, 3 ----- words	3,479
—Other publications, 12 ----- words	11,018
Pamphlets prepared -----	1

*By Director and two assistants.

Bureau Staff

Director of Bureau, two division chiefs, chief stenographer and assistant stenographer and clerk.

Budget

The funds for the annual support of the Bureau are derived from two sources:

North Carolina State Board of Health -----	\$ 22,259.66
Federal Government -----	27,259.66
	<hr/> \$ 49,519.32

Exhibit of Special Activities

1. During the period covered by this report, 9,323 prenatal cases have been reported and have been supplied with suitable literature. These cases have been referred through various agencies, among which may be mentioned physicians, health officers, public health nurses, midwives, county welfare workers, county home demonstration agents and others, as well as a number of direct requests from the patients themselves.

2. Babies to the number of 10,052 have been reported and supplied with literature during the same period. The agencies instrumental in bringing these cases to the attention of the Bureau are practically identical with those reporting prenatal cases.

3. Infant diagnostic clinics have been held in 14 places, during which time 407 examinations were made.

4. Conferences were held at 105 points in 88 counties, during which contact was made with 1,471 midwives.

5. Public health nurses have been placed in 15 counties in the State, and 9 public health nurses assigned to cities or towns.

6. Among miscellaneous items accomplished during the period may be mentioned tuberculosis diagnostic clinics, which the Bureau (through county public health nurses under its supervision) assisted the Bureau of Tuberculosis in organizing and holding throughout the State. Within the first 16 months of this biennial period 26 such clinics were held at 69 points in 21 counties; a total of 2,485 persons having been examined. A supervising nurse from the Bureau staff was present at 24 of these clinics.

BUREAU OF COUNTY HEALTH WORK

The objective of this department has been the supervision and direction of the programs of work developed in those counties having a co-operative agreement with the State Board of Health under which a health department is maintained with the financial assistance of the State. The work has been done with a director and one field supervisor, together with the necessary office clerical help.

During the period covered by this report a total of twenty-six counties in the State have had such health departments. At the beginning of the period there were twenty counties. During the nineteen months the health departments of two were discontinued, and departments were established in six additional counties. The net gain for the period, therefore, has been four counties.

During the period a comprehensive plan embodying the piece-work principle was formulated and applied. This was made possible by listing the established items of local health work, determining cost figures for each item, and providing a system of records and reports by the local health officer showing the number of each item of work performed for each month. The system has worked well, and for the first time it has been possible to measure public health work in various sections by an accurate scale.

Under the contracts made with the County Board of Commissioners of each county maintaining a co-operative health department the State agrees to supply \$1,000 toward the local budget without condition. An additional sum of \$1,500 is appropriated by the State conditional upon the earning of a dollar in cost equivalents of work performed for each dollar expended. In not a single county has the health officer failed to make the earning required. While the amounts varied somewhat the average for the period has been an earning of \$1.70 for each \$1.00 of expenditures, a net dividend of seventy cents on the dollar. The average monthly expenditures of the counties has been \$504.82. The average cost equivalent earned has been \$863.03.

County Budgets and Expenditures

	Budget	Expenditure
Bertie -----	\$ 4,933.33	\$ 5,126.88
Beaufort -----	2,850.00	3,209.84
Bladen -----	4,117.50	4,005.60
Cabarrus -----	2,661.18	2,827.83
Chatham -----	2,000.00	1,350.00
Columbus -----	6,325.00	5,857.32
Craven -----	8,500.00	8,401.51
Cumberland -----	17,004.33	15,234.82
Davidson -----	11,675.00	11,411.96
Edgecombe -----	12,500.00	12,421.18
Forsyth -----	13,245.74	12,943.58
Granville -----	6,597.73	6,407.74
Halifax -----	10,000.00	10,093.81
Lenoir -----	10,775.00	10,322.88
Mecklenburg -----	3,500.00	3,480.13
Northampton -----	10,000.00	8,156.45
Pitt -----	10,000.00	9,923.19

	Budget	Expenditure
Robeson -----	\$ 9,730.73	\$ 9,462.40
Rowan -----	12,750.00	13,198.43
Sampson -----	3,400.00	2,949.73
Surry -----	11,350.00	9,306.04
Vance -----	8,342.36	8,811.05
Wake -----	44,493.85	41,509.15
Wayne -----	14,128.15	10,955.63
Wilkes -----	6,825.00	6,104.23
Wilson -----	15,970.77	15,912.96
Totals -----	\$263,675.67	\$249,384.34

(The above report covers a period of two months for Chatham, five months for Beaufort, seven months for Mecklenburg, twelve months each for Bladen, Cabarrus, and Sampson, sixteen months for Columbus and Craven, and nineteen months for each of the other counties.)

Detail Report of Work

The following shows in detail the average amount of work accomplished for the counties covered per month by item, together with the cost of each item and the cost equivalent of each for the month.

I. COMMUNICABLE DISEASE CONTROL

	Number	Unit cost	Cost Equivalent
1. Contagious Diseases:			
Quarantine by mail-----	528	\$0.50	\$164.00
Quarantine by visit-----	603	1.50	904.50
Visit to and instruction of schools---	108	2.00	216.00
Instruction of schools thru' teachers	96	1.00	96.00
Epidemiological investigation -----	141	1.50	211.50
Vaccination, typhoid, complete-----	1,860	.50	930.00
Vaccination, smallpox -----	1,874	.25	468.50
Toxin-antitoxin, complete -----	408	.75	306.00
Vaccination, pertussis, complete-----	82	.50	41.00
2. Venereal Disease Control:			
Cases reported -----	216	.25	54.00
Cases returned for treatment-----	29	1.50	43.50
Treatments, indigent cases-----	823	2.00	1,646.00
V. D. prescription inspection-----	8	1.00	8.00
3. Tuberculosis Control:			
Cases registered -----	89	.25	22.25
Tuberculous homes visited and in-			
structed -----	199	1.00	199.00
Organization, clinic, number examined	208	1.00	208.00

II. HYGIENE

1. Infant and Material Hygiene:			
Prenatal cases registered-----	218	.25	54.50
Babies registered -----	422	.25	105.50
Home conferences, mothers-----	656	1.00	656.00
Office or individual conferences,			
mothers -----	124	.25	31.00
Group conferences, mothers; number			
present -----	150	.25	37.50

	Number	Unit cost	Cost Equivalent
Women completing standard course--	11	\$3.00	\$33.00
Midwives completing 6-hour course--	48	2.50	120.00
Children certificated, Little Mothers' League -----	6	1.50	9.00
2. School Hygiene:			
Tonsil and adenoid operations-----	170	5.00	\$850.00
Circumcision -----	-----	2.00	-----
Children treated, dental defects-----	1,056	1.25	1,320.00
Refractive errors corrected-----	83	1.00	\$83.00
Orthopedic corrections -----	5	5.00	25.00
Nutritional correction (crusaders only) -----	4	1.00	4.00
Pages, Modern Health Crusade-----	1,518	.20	303.60
Examinations, school children, includ- ing pre-school ages 2 to 6:			
Primary -----	9,362	.25	2,346.50
Final -----	2,186	.50	1,093.00
Excluded from school, account of scabies -----	52	.25	13.00
Excluded from school, account of pediculosis -----	56	.25	14.00

III. MEDICAL AND LABORATORY SERVICES—Medical

1. Visits:			
Jail -----	147	1.50	220.50
Convict camp -----	65	1.50	96.50
County home -----	112	1.50	168.00
Hookworm treatment -----	128	.25	32.00
Consultations, professional -----	34	1.50	51.00
2. Examinations, Special:			
Marriage -----	251	1.00	251.00
Teachers -----	35	1.00	35.00
Child for industry-----	174	.50	87.00
Food handlers -----	33	1.00	33.00
Examination by court order-----	10	2.00	20.00
Admission to institution-----	21	1.50	31.50
For lunacy -----	26	2.00	52.00
Postmortem -----	2	5.00	10.00
Coroner's inquest -----	2	5.00	10.00
3. Examinations, Life Extension:			
By health officer-----	172	2.00	344.00
In dispensary -----	48	1.00	48.00

III. MEDICAL AND LABORATORY SERVICES—Laboratory Work

Widal test -----	3	.50	1.50
Throat culture -----	58	1.00	58.00
Throat swab -----	39	.50	19.50
Feces examination, for parasites-----	251	.50	125.50
Sputum examination, for tuberculosis-----	15	1.00	15.00
Blood, for malaria-----	28	1.00	28.00
Milk analysis -----	162	2.00	324.00
Babcock test alone-----	35	.50	17.50
Water analysis (public supply)-----	81	1.00	81.00
Urine analysis -----	137	1.00	137.00
Albumen test, prenatal cases-----	6	.35	2.10
Pus, for gonococci-----	61	1.00	61.00
Specimens sent to State Laboratory-----	743	.50	371.50

IV. SANITATION

			Cost
1. Excreta Disposal:	Number	Unit cost	Equivalent
Urban privies licensed-----	1,252	\$0.50	\$626.00
Urban privies, maintenance, repair--	1,052	.50	526.00
Sewer connections -----	240	2.50	600.00
Rural privies constructed-----	44	5.00	220.00
2. Private Water Supplies:			
Protected against surface pollution--	14	5.00	70.00
3. Abatement of Nuisances:			
Minor -----	444	.50	222.00
Major, hours spent-----	61	1.00	61.00

V. FOOD CONTROL

1. Inspections:			
Dairy -----	111	1.00	111.00
Abattoir -----	15	1.00	15.00
Hotel, restaurant, market-----	924	.50	462.00
2. Examinations and Tests of Animals:			
Ante mortem (when temperatures are taken) -----	-----	.25	-----
Post mortem, viscera attached-----	206	.25	51.50
Cows tuberculin tested-----	1,972	1.50	493.00

VI. MISCELLANEOUS

1. Conferences, Health Officer:			
Office -----	208	.50	104.00
Official (group) -----	22	1.50	33.00
2. Convictions, Violations of health laws	19	5.00	95.00

VII. TRANSPORTATION

1. Mileage (Official Business):			
Car-miles -----	24,114	.10	2,411.40
Health officer-miles -----	13,844	.05	692.20
Nurse-miles -----	8,004	.02 1/2	200.10
Sanitary inspector-miles -----	3,910	.02 1/2	97.75

MINUTES ANNUAL MEETING OF THE NORTH CAROLINA STATE BOARD OF HEALTH

Pinehurst, N. C., April 25, 1921.

The members of the North Carolina State Board of Health were called to order at 8 p. m., President Way in the chair. All members of the Board were present except Dr. E. J. Tucker, who was unfortunately detained on account of the serious illness of his sister.

The President announced to the Board that the first business in order was the election of a Secretary-Treasurer for a term of six years, beginning July 1, 1921. The Secretary-Treasurer, Dr. Rankin, was excused from the meeting, and when recalled shortly afterwards, was directed by the President to enter the following minute:

"Dr. Rankin was unanimously elected Secretary-Treasurer for six years. Dr. Rankin is granted leave of absence not to exceed six months, with continuance of salary during absence."

The next item considered was a revision of the quarantine rules and regulations made necessary by legislation passed by the General Assembly of 1921. The rules and regulations attached to these minutes under "Addenda I" were considered and adopted.

The next item considered was a revision of the rules and regulations and the score card used in hotel inspection work under the revised law for the inspection of hotels adopted by the General Assembly of 1921. The amended rules and regulations as adopted, together with the new score card, are attached to and included in the minutes of the meeting under "Addenda II."

The next item of business considered was the work of the Medical Inspection of Schools Bureau, particularly as it is related to the system that has been followed with respect to the operations on public school children retarded and retarding their classes on account of defective throats. After having fully considered a proposal that had been made in several quarters that the Board employ a full-time State operator and perform the operations gratis, so far as the parents of the children are concerned, the Board unanimously voted to continue the work as at present being followed.

The next item considered was the question of salaries of executive officers of the Board. It was voted that the chiefs of bureaus, to wit, the Bureau of Venereal Diseases, Bureau of Engineering and Inspection, Bureau of Epidemiology, Bureau of Vital Statistics, Bureau of Medical Inspection of Schools, should receive a salary as provided for in the budget submitted to and adopted by the Budget Commission as the basis of appropriations for the Board, to wit, a salary of \$4,000 annually, dating from the first of the fiscal year.

Dr. McBrayer was then asked to come before the Board and state whether he cared to submit any recommendations in regard to changes of salaries of the executive staff of the Sanatorium. Dr. McBrayer recommended that the salary of the Assistant Superintendent be increased from \$2,400 to \$3,000 a year, and that the salary of the Director of the Labora-

tory of the Sanatorium be increased from \$2,000 to \$2,400 a year. Dr. McBrayer then retired and the Board, after considering the salary paid to the Superintendent, adopted the following resolution:

"Resolved, That the Superintendent of the State Sanatorium shall receive a salary of \$4,000 annually, the Assistant Superintendent a salary of \$3,000 annually, and the Director of the Laboratory a salary of \$2,400 annually, and that these salaries be effective from the first of the fiscal year."

Dr. McBrayer was then recalled and asked to state to the Board the legislative provisions for permanent improvements for the next two years. Dr. McBrayer stated that the Legislature had voted a total appropriation of \$300,000 for permanent improvements and that this fund had been apportioned by legislative enactment to certain specific improvements, among which, and perhaps most important of which, was the erection of a Negro Sanatorium on the land of the State Sanatorium at a sum not to exceed \$100,000. Other items included in the permanent improvements program were: dining-room and kitchen, a silo addition to dairy barn, larger cold storage facilities, and a doctor's cottage. The executive committee of the Board, Dr. Laughinghouse substituting for Dr. Lewis, with the Secretary, visited the Sanatorium with the Superintendent on the morning of April 26th, and after going over the property and considering the more important needs in the way of permanent improvements, adopted the following resolution:

"Resolved, That the Superintendent is authorized to proceed with the following construction, under the supervision of the engineer now acting as inspector on present construction work: (1) Silo; (2) Addition to dairy barn; (3) Pipe line to site for buildings for negroes as soon as same has been selected by the committee appointed at this meeting to act on the same; (4) Confer with competent person, or persons, for the purpose of arranging grounds and placing future buildings. The Superintendent is authorized to secure plans for the kitchen and cold storage as soon as possible, also for farm house and equipment.

J. HOWELL WAY.

CHAS. O'H. LAUGHINGHOUSE."

Pinehurst, N. C., April 26, 1921.

Respectfully submitted,

Secretary.

"ADDENDA I"

Rules Governing Fees Adopted by the North Carolina State Board of Health for Payment of Part-Time County Quarantine Officer

The North Carolina State Board of Health, as required in section 7150, Consolidated Statutes, and amended by chapter 53, Public Laws of 1921, adopts the following scale of fees for payment of quarantine officers in counties not having a full-time health officer:

1. For placarding and having placarded each home where a reportable disease exists, and for instructing, either by personal visit or by mail, the householder on the rules governing him under circumstances and means for preventing the spread of the disease existing in his or her home, a fee of 50 cents will be paid.

2. For the name and address of each person convicted of violation of the quarantine laws, and the name and address of the official holding the court, a fee of \$5.00 will be paid.

3. For each news article published concerning quarantine work and prevention of reportable diseases, a fee of one-half cent per word will be paid: Provided, however, that not more than \$1.50 is to be paid for a single article; that a printed copy of each article is furnished to the Board, and that the total amount of printing in any one month does not exceed \$6.

4. For each certification signed by a teacher stating that he or she has complied with the rules and regulations governing him or her when a notice has been received from the quarantine officer about the prevalence of a reportable disease in the school district, a fee of \$1 will be paid; also for the certification by a teacher that such a lecture, as may be furnished by the North Carolina State Board of Health through the quarantine officer has been delivered in the school, a fee of \$1 will be paid.

Rules Governing Quarantine Officers Adopted by the North Carolina State Board of Health as Authorized in Section 7154, Consolidated Statutes

Rule 1. The county or city quarantine officer must keep in his office a supply of forms, placards, literature, etc., which are furnished by the Secretary of the North Carolina State Board of Health and are needed for satisfactorily and promptly performing his duties.

Rule 2. The county or city quarantine officer must supply principals and teachers of the schools from time to time with blank forms as furnished by the Secretary of the North Carolina State Board of Health for reporting to him such diseases which are declared reportable by the North Carolina State Board of Health, and such other forms as the North Carolina State Board of Health prepares for teachers' use in the quarantine work.

Rule 3. The county or city quarantine officer is empowered to visit any person when he has evidence to believe that such person is afflicted with any disease declared reportable by the North Carolina State Board of Health in order to determine the nature of the disease that such person has, and is further empowered to institute such measures as are necessary to prevent the spread of the disease.

Rule 4. The county or city quarantine officer must investigate either by visit or letter all suspected cases of diseases declared reportable by the North Carolina State Board of Health reported to him by physicians or any other person.

Rule 5. The county or city quarantine officer must forward to the Secretary of the North Carolina State Board of Health within 24 hours the reports of the diseases declared reportable by the North Carolina State Board of Health which he received from physicians or any other person, and must indicate on the card (a) the date such report was received by him, and (b) if the placard, etc., was delivered or mailed.

Rule 6. The county or city quarantine officer must make permanent records for his office of the cases reported to him, and in so doing must follow a manner acceptable to the North Carolina State Board of Health,

and must mail these records to the Secretary of the North Carolina State Board of Health for inspection when requested by the proper official of the Board.

Rule 7. The county or city quarantine officer, within twelve hours after receiving a notice of the existence of any reportable disease in any city, town or community, must deliver, cause to be delivered, or mailed to the householder in whose house such disease as declared preventable by the North Carolina State Board of Health is said to exist (1) a placard having printed upon it the name of the disease, etc., which shall be posted as directed in the rules for the householder, and (2) a pamphlet prepared by the North Carolina State Board of Health treating upon the mode of prevention of the given disease, and setting forth the rules governing the householder under the circumstances.

Rule 8. The county quarantine officer must mail to the teacher a letter informing her of the disease prevalent in her school district, the name of the householder and of the person sick, and pointing out the symptoms, signs of the disease and the precautions to be taken so as to prevent its spread; also the rules governing him or her under the circumstances.

Rule 9. When a disease is reported for the first time in a school district during the fall and spring term of school, the county quarantine officer shall mail to the teacher a sufficient number of bulletins called "Facts," about the disease reported, for him or her to send one to each home represented in the school.

Rule 10. When a county quarantine officer is notified of the prevalence of small-pox in a school district he must mail to the teacher ten notices and a supply of tacks, requesting him or her to use his or her influence to have boys or patrons of the school to post such notices along the public road to inform the people of the prevalence of smallpox in the community.

Rule 11. The county or city quarantine officer must answer such forms, questionnaires, etc., as he shall receive from the North Carolina State Board of Health regarding the reporting of diseases or any other thing bearing upon quarantine work.

Rule 12. The county or city quarantine officer, on the first day of each month, shall send to the North Carolina State Board of Health, on prescribed forms, a complete and accurate report of the work done by him during the previous month.

Rules Governing the Management of Cerebro-Spinal Meningitis (Epidemic Meningitis) for Parents, Guardians, Householders and Adults

The following rules and regulations shall govern householders, parents, or guardians in whose home a case of cerebro-spinal meningitis (epidemic meningitis) exists:

Rule 1. He or she shall immediately and securely fasten, in the most conspicuous place near the main entrance of his or her home (when living in a hotel, apartment house or rented room, upon the door leading to their apartment or room), such placard as sent by the city or county quarantine officer to him or her; and in case such placard is removed in any way whatsoever the city or county quarantine officer shall be notified by the householder, parent or guardian so that the placard can be replaced. This

placard must remain as specified for a period of fourteen days from onset of the disease or until written permission is given by the city or county quarantine officer.

Rule 2. He or she shall report to the quarantine officer, giving the name and age of every person in his or her home that has cerebro-spinal meningitis (epidemic meningitis), date of onset and name of school district, within 24 hours after he or she has evidence to believe that the child has cerebro-spinal meningitis (epidemic meningitis) specified in section 7152, Consolidated Statutes.

Rule 3. He or she shall not permit any child or minor who has cerebro-spinal meningitis (epidemic meningitis) to attend any public or private school, Sunday school, church meeting, theater, party, picnic, or other public assemblage, to go near a public park or to appear upon a public street (unless riding in a private conveyance) while the house is placarded.

Rule 4. He or she shall not permit any child or minor who has been exposed to cerebro-spinal meningitis (epidemic meningitis) to attend any public or private school, Sunday school or other church meeting, theater, party, picnic or other public assemblage, or to go near a public park or upon a public street (unless riding in a private conveyance) within ten days from the time of exposure.

Rule 5. He or she shall notify in some way the teacher, if a child or minor living in his or her home has cerebro-spinal meningitis (epidemic meningitis).

Rule 6. He or she must, upon request by the city or county quarantine officer inform him of the name and address of any child or minor who has been exposed to cerebro-spinal meningitis (epidemic meningitis).

Rule 7. He or she must observe, during and at the termination of the disease, the following precautions adopted by the North Carolina State Board of Health for the prevention of the spread of cerebro-spinal meningitis (epidemic meningitis):

Rules for the Prevention of the Spread of Cerebro-Spinal Meningitis (Epidemic Meningitis)

(a) He or she must keep those having cerebro-spinal meningitis (epidemic meningitis) in rooms to themselves as well as housing conditions will permit.

(b) He or she must permit as few people as possible to act as a nurse, using in no instance a person whose duty will make it necessary for that party to leave the premises prior to the termination of the quarantine, and should encourage those nursing to thoroughly wash their hands after each assistance to the sick.

(c) He or she must ventilate and sun the room, as instructed by the doctor.

(d) He or she must, as far as possible, see that the discharges from the nose and throat are properly disposed of by supplying the sick with paper napkins, rags, etc., to cover up the cough and sneeze. Such rags, etc., are to be burned after using them; and must allow no other child to use the same feeding utensils or drinking vessels used by a person who has cerebro-spinal meningitis (epidemic meningitis).

(e) All washable material, such as sheets, pillow-cases, towels, etc., which have been used by or in direct contact with the person having had cerebro-spinal meningitis (epidemic meningitis) must be either boiled on the premises or soaked for three hours in a solution of carbolic acid in the proportion of a tablespoonful to a pint of water, or a solution of that proportion or a preparation equivalent in antiseptic power.

Rules Governing Teachers and Principals of Schools on the Appearance of Epidemic Cerebro-Spinal Meningitis In His or Her School District

1. When a teacher has reason to suspect that any person residing in his or her school district has epidemic cerebro-spinal meningitis or when any child is absent from school because of what may be epidemic cerebro-spinal meningitis, he or she must make a written report to the county quarantine officer within 24 hours, giving the name of the person or child, the name and address of the householder with whom the person or child lives, and the name of his or her school district.

2. No teacher shall reside in a home where a person is sick with epidemic cerebro-spinal meningitis and conduct or attend a public or private school unless housing conditions are such that the patient can be and is completely isolated.

3. When a teacher receives official notice from the county quarantine officer that epidemic cerebro-spinal meningitis exists in a family patronizing his or her school, he or she is ordered to strictly enforce the following rules:

(a) He or she must exclude from his or her school each child living in that house, apartment, or room, and any other child known to have been intimately exposed for a period of three days after its last exposure.

(b) He or she must frequently call attention to the children the signs, symptoms, and the dangers of epidemic cerebro-spinal meningitis and read aloud before the assembled school such letters and lectures, and send to the homes by the children such literature as he or she may receive from the county quarantine officer dealing with "Facts About Epidemic Cerebro-Spinal Meningitis."

(c) He or she, within 24 hours after receiving notification from the county quarantine officer of the presence of epidemic cerebro-spinal meningitis in his or her school district, must notify, by letter or otherwise, the superintendent of Sunday school, church official, or some responsible person (when the address of such person is known), and have announced at any public meeting which is being held, the prevalence of epidemic cerebro-spinal meningitis in his or her school district, its signs, symptoms, dangers, and precautions to be taken so as to prevent its spread.

(d) He or she must not permit the use of the common dipper, drinking cup, or open bucket when epidemic cerebro-spinal meningitis is present in his or her school district.

Rules Governing the Management of Chicken-pox, for Parents, Guardians, and Adults

The following rules and regulations shall govern householders, parents, or guardians in whose home a case of chicken-pox exists:

Rule 1. He or she shall immediately and securely fasten, in the most conspicuous place near the main entrance of his or her home (when living

in a hotel, apartment house or rented room, upon the door leading to their apartment or room), such placard as sent by the city or county quarantine officer to him or her; and in case such placard is removed in any way whatsoever the city or county quarantine officer shall be notified so that the placard can be replaced. This placard must remain as specified until all scabs have disappeared and the lesions healed, or until written permission is given by the city or county quarantine officer.

Rule 2. He or she shall report to the quarantine officer, giving the name and age of every person in his or her home that has chicken-pox, date of onset, and name of school district, within 24 hours after he or she has evidence to believe that the child or person has chicken-pox, specified in section 7152, Consolidated Statutes.

Rule 3. He or she shall notify in some way the teacher, if a child or person living in his or her house has chicken-pox.

Rule 4. He or she must, upon request by the city or county quarantine officer, inform him of the name and address of any child or person who has been exposed to chicken-pox in his or her home.

Rule 5. He or she must observe, during and at the termination of the disease, the following precautions adopted by the North Carolina State Board of Health for the prevention of the spread of chicken-pox:

Rules for the Prevention of the Spread of Chicken-pox

(a) He or she must keep those having chicken-pox in rooms to themselves as well as housing conditions will permit.

(b) He or she must permit as few people as possible to act as nurse, using in no instance a person whose duty will make it necessary for that party to leave the premises prior to the termination of the quarantine, and should encourage those nursing to thoroughly wash their hands after each assistance to the sick.

(c) He or she must ventilate and sun the room, as instructed by the doctor.

(d) He or she must, as far as possible, see that the discharges from the nose and throat and sores are properly disposed of by supplying the sick with paper napkins, rags, etc., to cover up the cough and sneeze. Such rags, etc., are to be burned after using them; and must allow no other child or person to use the same feeding utensils or drinking vessels used by a person who has chicken-pox.

(e) All washable material such as sheets, pillow-cases, towels, etc., which have been used by or in direct contact with the person having had chicken-pox, must be either boiled on the premises or soaked for three hours in a solution of carbolic acid in the proportion of a tablespoonful to a pint of water, or a solution of that proportion or a preparation equivalent in antiseptic power.

Rules Governing Teachers and Principals of Schools on the Appearance of Chicken-pox In His or Her School District

1. When a teacher has reason to suspect that any person residing in his or her school district has chicken-pox or when any child is absent from school because of what may be chicken-pox, he or she must make a written report to the county quarantine officer within 24 hours, giving the

name of the person or child, the name and address of the householder with whom the person or child lives, and the name or his or her school district.

2. The principal of each school must keep a copy of the posters and literature which point out the signs and symptoms of chicken-pox as furnished to him or her upon application to the North Carolina State Board of Health, Raleigh, N. C.

3. When a teacher receives official notice from the county quarantine officer that chicken-pox exists in a family patronizing his or her school, he or she is ordered to strictly enforce the following rules:

(a) He or she must observe daily the children in his or her school who have not had chicken-pox for signs and symptoms of the disease, and is ordered and empowered to exclude immediately from school any pupil showing indications of chicken-pox for 14 days or until the symptoms have subsided, or a satisfactory certificate is presented, signed by a physician or the county health officer.

(b) He or she must report within 24 hours, to the county quarantine officer, the name of any child excluded and the name and address of the parent, householder, or guardian with whom he or she resides.

(c) He or she must frequently call attention to the children the signs, symptoms and dangers of chicken-pox and read aloud before the assembled school such letters and lectures and send to homes by the children such literature as he or she may receive from the county quarantine officer dealing with "Facts About Chicken-pox."

(d) He or she, within 24 hours after receiving notification from the county quarantine officer of the presence of chicken-pox in his or her school district, must notify, by letter or otherwise, the superintendent of the Sunday school, church official or some responsible person (when the address of such person is known), and have announced at any public meeting which is being held the prevalence of chicken-pox in his or her school district, its signs, symptoms, dangers, and precautions to be taken so as to prevent its spread.

(e) He or she must not permit the use of the common dipper, drinking cup, or open bucket when chicken-pox is present in his or her school district.

Rules Governing the Management of Diphtheria, for Parents, Guardians, Householders and Adults

The following rules and regulations shall govern householders, parents, or guardians in whose home a case of diphtheria exists:

Rule 1. He or she shall immediately and securely fasten, in the most conspicuous place near the main entrance of his or her home (when living in a hotel, apartment house, or rented room, upon the door leading to their apartment or room), such placard as sent by the city or county quarantine officer to him or her; and in case such placard is removed in any way whatsoever, the householder, parent, or guardian shall immediately notify the city or county quarantine officer so that the placard can be replaced. This placard must remain as specified for a period of 21 days from onset of the disease or until written permission is given by the city or county quarantine officer.

Rule 2. He or she shall report to the quarantine officer, giving the name and age of every person in his or her home that has diphtheria, date of onset, and name of school district, within 24 hours after he or she has evidence to believe that the child has diphtheria, specified in section 7152, Consolidated Statutes.

Rule 3. He or she shall not permit any child or minor who has diphtheria to attend any public or private school, Sunday school, church meeting, theater, party, picnic, or other public assemblage, to go near a public park or to appear upon a public street (unless riding in a private conveyance) while the house is placarded.

Rule 4. He or she shall not permit any child or minor who has been exposed to diphtheria to attend any public or private school, Sunday school or other church meeting, theater, party, picnic or other public assemblage, or to go near a public park or upon a public street unless riding in a private conveyance, within 5 days from the time of exposure.

Rule 5. He or she shall notify in some way the teacher, if a child or minor living in his or her house has diphtheria.

Rule 6. He or she must, upon request by the city or county quarantine officer, inform him of the name and address of any child or minor who has been exposed to diphtheria in his or her home.

Rule 7. He or she shall not receive any milk from any one in any container that is to be returned, but must furnish his or her own vessel.

Rule 8. He or she must observe, during and at the termination of the disease, the following precautions adopted by the North Carolina State Board of Health for the prevention of the spread of diphtheria:

Rules for the Prevention of the Spread of Diphtheria

(a) He or she must keep those having diphtheria in rooms to themselves as well as housing conditions will permit.

(b) He or she must permit as few people as possible to act as a nurse, using in no instance a person whose duty will make it necessary for that party to leave the premises prior to the termination of the quarantine; and should encourage those nursing to thoroughly wash their hands after each assistance to the sick.

(c) He or she must ventilate and sun the room, as instructed by the doctor.

(d) He or she must, as far as possible, see that the discharges from the nose and throat are properly disposed of by supplying the sick with paper napkins, rags, etc., to cover up the cough and sneeze. Such rags, etc., are to be burned after using them; and must allow no other child to use the same feeding utensils or drinking vessels used by a person who has diphtheria.

(e) All washable material, such as sheets, pillow-cases, towels, etc., which have been used by or in direct contact with the person having had diphtheria, must be either boiled on the premises or soaked for three hours in a solution of carbolic acid in the proportion of a tablespoonful to a pint of water, or a solution of that proportion or a preparation equivalent in antiseptic power.

Rules Governing Teachers and Principals of Schools On the Appearance of Diphtheria In His or Her School District

1. When a teacher has reason to suspect that any person residing in his or her school district has diphtheria, or when any child is absent from school because of what may be diphtheria, he or she must make a written report to the county quarantine officer within 24 hours, giving the name of the person or child, the name and address of the householder with whom the person or child lives, and the name of his or her school district.

2. No teacher shall reside in a home where there is a person sick with diphtheria and conduct or attend a public or private school unless housing conditions are such that the patient can be and is completely isolated.

3. The principal of each school must keep a copy of the posters and literature which point out the signs and symptoms of diphtheria, as furnished to him or her upon application to the North Carolina State Board of Health, Raleigh, N. C.

4. When a teacher receives official notice from the county quarantine officer that diphtheria exists in a family patronizing his or her school, he or she is ordered to strictly enforce the following rules:

(a) He or she must exclude from his or her school each child living in that house, apartment or room (except those who can comply with "special rules and regulations" as outlined in rules governing the county quarantine officer, and in such instance each child or minor must present to the teacher a signed permit from the county quarantine officer).

(b) He or she must observe daily the children in his or her school for signs and symptoms of the disease, and is ordered and empowered to exclude immediately from school any pupil showing indications of diphtheria for 7 days or until the symptoms have subsided, or a satisfactory certificate is presented, signed by a physician or the county health officer.

(c) He or she must report, within 24 hours to the county quarantine officer, the name of any child excluded and the name and address of the parent, householder, or guardian with whom the child resides.

(d) He or she must frequently call attention to the children the signs, symptoms, and the dangers of diphtheria, and read aloud before the assembled school such letters and lectures, and send to the homes by the children such literature as he or she may receive from the county quarantine officer dealing with "Facts About Diphtheria."

(e) He or she, within 24 hours after receiving notification from the county quarantine officer of the presence of diphtheria in his or her school district, must notify, by letter or otherwise, the superintendent of the Sunday school, church official or some responsible person (when the address of such person is known), and have announced at any public meeting which is being held the prevalence of diphtheria in his or her school district, its signs, symptoms, dangers, and precautions to be taken so as to prevent its spread.

(f) He or she must not permit the use of the common dipper, drinking cup, or open bucket when diphtheria is present in his or her school district.

Rules Governing the Management of German Measles, for Parents, Guardians, Householders and Adults

The following rules and regulations shall govern householders, parents, or guardians in whose home a case of German measles exists:

Rule 1. He or she shall immediately and securely fasten, in the most conspicuous place near the main entrance of his or her home (when living in a hotel, apartment house or rented room, upon the door leading to their apartment or room), such placard as sent by the city or county quarantine officer to him or her, and in case such placard is removed in any way whatsoever the householder, parent, or guardian shall immediately notify the city or county quarantine officer, so that the placard can be replaced. This placard must remain as specified for a period of 14 days from onset of the disease, or until written permission is given by the city or county quarantine officer.

Rule 2. He or she shall report to the quarantine officer, giving the name and age of every child in his or her home that has German measles, date of onset, and name of school district, within 24 hours after he or she has evidence to believe that the child has German measles, as specified in section 7152, Consolidated Statutes.

Rule 3. He or she shall not permit any person or minor who has German measles to attend any public or private school, Sunday school, church meeting, theater, party, picnic or other public assemblage, to go near a public park, or to appear upon a public street unless riding in a private conveyance, while the house is placarded.

Rule 4. He or she shall not permit any child or minor who has never had German measles, but who has been exposed to German measles, to attend any public or private school, Sunday school or other church meeting, theater, party, picnic or other public assemblage, or to go near a public park or upon a public street, unless riding in a private conveyance, within 14 days from the time of exposure.

Rule 5. He or she shall notify in some way the teacher if a child or minor living in his or her house has German measles.

Rule 6. He or she must, upon request by the city or county quarantine officer, inform him of the names and addresses of any child or minor who has been exposed to German measles in his or her home.

Rule 7. He or she must observe, during and at the termination of the disease, the following precautions adopted by the North Carolina State Board of Health for the prevention of the spread of German measles:

Rules for the Prevention of the Spread of German Measles

(a) He or she must keep those having German measles in rooms to themselves as well as housing conditions will permit.

(b) He or she must permit as few people as possible to act as a nurse, using only those who have had German measles if possible, and encourage those nursing to thoroughly wash their hands after each assistance of the sick.

(c) He or she must ventilate the room as instructed by the doctor. In most diseases the room must not only be well ventilated, but also should admit as much sunshine as possible. However, in German measles,

owing to the inflamed condition of the eyes which often accompanies the disease, the room should be darkened as necessary.

(d) He or she must, as far as possible, see that the discharges from the nose and throat are properly disposed of by supplying the sick with paper napkins, rags, etc., to cover up the cough and sneeze. Such rags, etc., are to be burned after using them; and must allow no other child to use the same feeding utensils or drinking vessels used by a person who has German measles.

(e) All washable material, such as sheets, pillow-cases, towels, etc., which have been used by or in direct contact with the person having had German measles, must be either boiled on the premises or soaked for three hours in a solution of carbolic acid in the proportion of a table-spoonful to a pint of water, or a solution of that proportion or a preparation equivalent in antiseptic power.

Rules Governing Teachers and Principals of Schools On the Appearance of German Measles (Roseola) In His or Her School District

1. When a teacher has reason to suspect that any person residing in his or her school district has German measles (roseola), or when any child is absent from school because of what may be German measles (roseola), he or she must make a written report to the county quarantine officer within 24 hours, giving the name of the person or child, the name and address of the householder with whom the person or child lives, and the name of his or her school district.

2. No teacher who knows he or she has never had German measles (roseola), but who has been intimately exposed to German measles (roseola) in any home, shall conduct or attend a public or private school until 14 days after last exposure; nor shall he or she reside in a home where a person is sick with German measles (roseola) unless housing conditions are such that the patient can be and is completely isolated.

3. The principal of each school must keep a copy of the posters and literature which point out the signs and symptoms of German measles (roseola), as furnished to him or her upon application to the North Carolina State Board of Health, Raleigh, N. C.

4. When a teacher receives official notice from the county quarantine officer that German measles (roseola) exists in a family patronizing his or her school, he or she is ordered to strictly enforce the following rules:

(a) He or she must exclude from his or her school each child living in that house, apartment, or room who has not had German measles (roseola) and any other child known to have been intimately exposed for a period of 7 days after its last exposure.

(b) He or she must observe daily the children in his or her school who have not had German measles (roseola) for signs and symptoms of the disease, and is ordered and empowered to exclude immediate from school any pupil showing indications of German measles (roseola) for 14 days or until the symptoms have subsided or a satisfactory certificate is presented, signed by a physician or the county health officer.

(c) He or she must report within 24 hours to the county quarantine officer the name of any child excluded and the name and address of the parent, householder, or guardian, with whom the child resides.

(d) He or she must frequently call attention to children the signs, symptoms and the dangers of German measles (roseola), and read aloud before the assembled school such letters and lectures, and send to the homes by the children such literature as he or she may receive from the county quarantine officer dealing with "Facts About German Measles (Roseola)."

(e) He or she, within 24 hours after receiving notification from the county quarantine officer of the presence of German measles (roseola) in his or her school district, must notify, by letter or otherwise, the superintendent of the Sunday school, church official or some responsible person (when the address of such person is known), and have announced at any public meeting which is being held the prevalence of German measles (roseola) in the district, its signs, symptoms, dangers, and precautions to be taken so as to prevent its spread.

(f) He or she must not permit the use of the common dipper, drinking cup, or open bucket when German measles (roseola) is present in his or her school district.

Rules Governing the Management of Measles, for Parents, Guardians, Householders and Adults

The following rules and regulations shall govern householders, parents or guardians, in whose home a case of measles exists:

Rule 1. He or she shall immediately and securely fasten, in the most conspicuous place near the main entrance of his or her home (when living in a hotel, apartment house or rented room, upon the door leading to their apartment or room), such placard as sent by the city or county quarantine officer to him or her, and in case such placard is removed in any way whatsoever the householder, parent, or guardian shall immediately notify the city or quarantine officer so that the placard can be replaced. This placard must remain as specified for a period of 14 days from onset of the disease or until written permission is given by the city or county quarantine officer.

Rule 2. He or she shall report to the quarantine officer, giving the name and age of every person in his or her home that has measles, date of onset and name of school district, within 24 hours after he or she has evidence to believe that the child has measles, as specified in section 7152, Consolidated Statutes.

Rule 3. He or she shall not permit any child or minor who has measles to attend any public or private school, Sunday school, church meeting, theater, party, picnic, or other public assemblage, to go near a public park, or to appear upon a public street, unless riding in a private conveyance, while the house in placarded.

Rule 4. He or she shall not permit any child or minor who has never had measles, but who has been exposed to measles, to attend any public or private school, Sunday school or other church meeting, theater, party, picnic or other public assemblage, or to go near a public park or upon a public street, unless riding in a private conveyance, within 14 days from the time of exposure.

Rule 5. He or she shall notify in some way the teacher, if a child or minor living in his or her house has measles.

Rule 6. He or she must, upon request by the city or county quarantine officer, inform him of the names and addresses of any child or minor who has been exposed to measles in his or her home.

Rule 7. He or she must observe, during and at the termination of the disease, the following precautions adopted by the North Carolina State Board of Health for the prevention of the spread of measles:

Rules for the Prevention of the Spread of Measles

(a) He or she must keep those having measles in rooms to themselves as well as housing conditions will permit.

(b) He or she must permit as few people as possible to act as a nurse, using only those who have had measles if possible, and encourage those nursing to thoroughly wash their hands after each assistance of the sick.

(c) He or she must ventilate the room as instructed by the doctor. In most diseases the room must not only be well ventilated, but also should admit as much sunshine as possible. However, in measles, owing to the inflamed condition of the eyes which often accompanies the disease, the room should be darkened as necessary.

(d) He or she must, as far as possible, see that the discharges from the nose and throat are properly disposed of by supplying the sick with paper napkins, rags, etc., to cover up the cough and sneeze. Such rags, etc., are to be burned after using them; and must allow no other child to use the same feeding utensils or drinking vessels used by a person who has measles.

(e) All washable material, such as sheets, pillow-cases, towels, etc., which have been used by or in direct contact with the person having measles must be either boiled on the premises or soaked for three hours in a solution of carbolic acid in the proportion of a tablespoonful to a pint of water, or a solution of that proportion or a preparation equivalent to antiseptic power.

Rules Governing Teachers and Principals of Schools on the Appearance of Measles In His or Her School District

1. When a teacher has reason to suspect that any person residing in his or her school district has measles or when any child is absent from school because of what may be measles, he or she must make a written report to the county quarantine officer within 24 hours, giving the name of the person or child, the name and address of the householder with whom the person or child lives, and the name of his or her school district.

2. No teacher who knows he or she has never had measles, but who has been intimately exposed to measles in any home, shall conduct or attend a public or private school until 14 days after last exposure; nor shall he or she reside in a home where a person is sick with measles unless housing conditions are such that the patient can be and is completely isolated.

3. The principal of each school must keep a copy of the posters and literature which point out the signs and symptoms of measles as furnished to him or her upon application to the North Carolina State Board of Health, Raleigh, N. C.

4. When a teacher receives official notice from the county quarantine officer that measles exists in a family patronizing his or her school, he or she is ordered to strictly enforce the following rules:

(a) He or she must exclude from his or her school each child living in that house, apartment, or room who has not had measles and any other child known to have been intimately exposed for a period of 14 days after its last exposure.

(b) He or she must observe daily the children in his or her school who have not had measles for signs and symptoms of the disease, and is ordered and empowered to exclude immediately from school any pupil showing indications of measles for 7 days or until the symptoms have subsided or a satisfactory certificate is presented, signed by a physician or the county health officer.

(c) He or she must report within 24 hours to the county quarantine officer the name of any child excluded and the name and address of the parent, householder, or guardian with whom the child resides.

(d) He or she must frequently call attention to the children the signs, symptoms, and the dangers of measles, and read aloud before the assembled school such letters and lectures, and send to the home by the children such literature as he or she may receive from the county quarantine officer dealing with "Facts About Measles."

(e) He or she, within 24 hours after receiving notification from the county quarantine officer of the presence of measles in his or her school district, must notify, by letter or otherwise, the superintendent of the Sunday school, church official, or some responsible person (when the address of such person is known), and have announced at any public meeting which is being held the prevalence of measles in his or her school district, its signs, symptoms, dangers, and precautions to be taken so as to prevent its spread.

(f) He or she must not permit the use of the common dipper, drinking cup, or open bucket when measles is present in his or her school district.

Rules Governing the Management of Poliomyelitis (Infantile Paralysis), for Parents, Householders, Guardians and Adults

The following rules and regulations shall govern householders, parents, or guardians in whose home a case of poliomyelitis (infantile paralysis) exists:

Rule 1. He or she shall immediately and securely fasten, in the most conspicuous place near the main entrance of his or her home (when living in a hotel, apartment house, or rented room, upon the door leading to their apartment or room), such placard as sent by the city or county quarantine officer to him or her; and in case such placard is removed in any way whatsoever the householder, parent, or guardian shall immediately notify the city or county quarantine officer so that the placard can be replaced. This placard must remain as specified for a period of 21 days from onset of the disease or until written permission is given by the city or county quarantine officer.

Rule 2. He or she shall report to the quarantine officer, giving the name and age of every person in his or her home that has poliomyelitis (infantile paralysis), date of onset, and the name of school district, within 24 hours after he or she has evidence to believe that the child has poliomyelitis (infantile paralysis), specified in section 7152, Consolidated Statutes.

Rule 3. He or she shall not permit any child or minor who has poliomyelitis (infantile paralysis) to attend any public or private school, Sunday school, church meeting, theater, party, picnic, or other public assemblage, to go near a public park or to appear upon a public street (unless riding in a private conveyance) while the house is placarded.

Rule 4. He or she shall not permit any child or minor who has been exposed to poliomyelitis (infantile paralysis) to attend any public or private school, Sunday school or other church meeting, theater, party, picnic or other public assemblage, or to go near a public park or upon a public street, unless riding in a private conveyance, within 10 days from the time of exposure.

Rule 5. He or she shall notify in some way the teacher, if a child or minor living in his or her home has poliomyelitis (infantile paralysis).

Rule 6. He or she must, upon request by the city or county quarantine officer, inform him of the name and address of any child or minor who has been exposed to poliomyelitis (infantile paralysis) in his or her home.

Rule 7. He or she must observe, during and at the termination of the disease, the following precautions adopted by the North Carolina State Board of Health for the prevention of the spread of poliomyelitis (infantile paralysis):

Rules for the Prevention of the Spread of Poliomyelitis (Infantile Paralysis)

(a) He or she must keep those having poliomyelitis (infantile paralysis) in rooms to themselves as well as housing conditions will permit.

(b) He or she must permit as few people as possible to act as a nurse, using in no instance a person whose duty will make it necessary for that party to leave the premises prior to the termination of the quarantine, and should encourage those nursing to thoroughly wash their hands after each assistance to the sick.

(c) He or she must ventilate and sun the room, as instructed by the doctor.

(d) He or she must, as far as possible, see that the discharges from the nose and throat are properly disposed of by supplying the sick with paper napkins, rags, etc., to cover up the cough and sneeze. Such rags, etc., are to be burned after using them; and must allow no other child to use the same feeding utensils or drinking vessels used by a person who has poliomyelitis (infantile paralysis).

(e) All washable material, such as sheets, pillow cases, towels, etc., which have been used by or in direct contact with the person having had poliomyelitis (infantile paralysis), must be either boiled on the premises or soaked for three hours in a solution of carbolic acid in the proportion of a tablespoonful to a pint of water, or a solution of that proportion or a preparation equivalent in antiseptic power.

Rules Governing Teachers and Principals of Schools on the Appearance of Poliomyelitis (Infantile Paralysis) In His or Her School District

1. When a teacher has reason to suspect that any person residing in his or her school district has poliomyelitis (infantile paralysis), or when any child is absent from school because of what may be poliomyelitis (infantile

paralysis), he or she must make a written report to the county quarantine officer within 24 hours, giving the name of the person or child, the name and address of the householder with whom the person or child lives, and the name of his or her school district.

2. No teacher shall reside in a home where a person is sick with poliomyelitis (infantile paralysis) and conduct or attend a public or private school, unless housing conditions are such that the patient can be and is completely isolated.

3. When a teacher receives official notice from the county quarantine officer that poliomyelitis (infantile paralysis) exists in a family patronizing his or her school, he or she is ordered to strictly enforce the following rules:

(a) He or she must exclude from his or her school each child living in that house, apartment, or room, and any other child known to have been intimately exposed for a period of ten days after its last exposure.

(b) He or she must frequently call attention to the children signs, symptoms, and the dangers of poliomyelitis (infantile paralysis), and read aloud before the assembled school such letters and lectures, and send to the homes by the children such literature as he or she may receive from the county quarantine officer dealing with "Facts About Poliomyelitis (Infantile Paralysis)."

(c) He or she, within 24 hours after receiving notification from the county quarantine officer of the presence of poliomyelitis (infantile paralysis) in his or her school district, must notify, by letter or otherwise, the superintendent of the Sunday school, church official, or some responsible person (when the address of such person is known), and have announced at any public meeting which is being held the prevalence of poliomyelitis (infantile paralysis) in his or her school district, its signs, symptoms, dangers, and precautions to be taken so as to prevent its spread.

(d) He or she must not permit the use of the common dipper, drinking cup, or open bucket when poliomyelitis (infantile paralysis) is present in his or her school district.

Rules Governing the Management of Scarlet Fever, for Parents, Guardians, Householders and Adults

The following rules and regulations shall govern householders, parents, or guardians in whose home a case of scarlet fever exists:

Rule 1. He or she shall immediately and securely fasten, in the most conspicuous place near the main entrance of his or her home (when living in a hotel, apartment house or rented room, upon the door leading to their apartment or room), such placard as sent by the city or county quarantine officer to him or her; and in case such placard is removed in any way whatsoever, the householder, parent, or guardian shall immediately notify the city or county quarantine officer so that the placard can be replaced. This placard must remain as specified for a period of 28 days from onset of the disease or until written permission is given by the city or county quarantine officer.

Rule 2. He or she shall report to the quarantine officer, giving the name and age of every person in his or her home that has scarlet fever, date of onset, and name of school district, within 24 hours after he or

she has evidence to believe that the child has scarlet fever, specified in section 7152, Consolidated Statutes.

Rule 3. He or she shall not permit any child or minor who has scarlet fever to attend any public or private school, Sunday school, church meeting, theater, party, picnic or other public assemblage, go near a public park or to appear upon a public street (unless riding in a private conveyance) while the house is placarded.

Rule 4. He or she shall not permit any child or minor who has been exposed to scarlet fever to attend any public or private school, Sunday school or other church meeting, theater, party, picnic or other public assemblage, or to go near a public park or upon a public street, unless riding in a private conveyance, within 7 days from the time of exposure.

Rule 5. He or she shall notify in some way the teacher, if a child or minor living in his or her house has scarlet fever.

Rule 6. He or she must, upon request by the city or county quarantine officer, inform him of the name and address of any child or minor who has been exposed to scarlet fever in his or her home.

Rule 7. He or she shall not receive any milk from any one in any container that is to be returned, but must furnish his or her own vessel.

Rule 8. He or she must observe, during and at the termination of the disease, the following precautions adopted by the North Carolina State Board of Health for the prevention of the spread of scarlet fever:

Rules for the Prevention of the Spread of Scarlet Fever

(a) He or she must keep those having scarlet fever in rooms to themselves as well as housing conditions will permit.

(b) He or she must permit as few people as possible to act as a nurse, using in no instance a person whose duty will make it necessary for that party to leave the premises prior to the termination of the quarantine, and should encourage those nursing to thoroughly wash their hands after each assistance to the sick.

(c) He or she must ventilate and sun the room, as instructed by the doctor.

(d) He or she must, as far as possible, see that the discharges from the nose and throat are properly disposed of by supplying the sick with paper napkins, rags, etc., to cover up the cough and sneeze. Such rags, etc., are to be burned after using them; and must allow no other child to use the same feeding utensils or drinking vessels used by a person who has scarlet fever.

(e) All washable material, such as sheets, pillow-cases, towels, etc., which have been used by or in direct contact with the person having scarlet fever, must be either boiled on the premises or soaked for three hours in a solution of carbolic acid in the proportion of a tablespoonful to a pint of water, or a solution of that proportion or a preparation equivalent in antiseptic power.

Rules Governing Teachers and Principals of Schools on the Appearance of Scarlet Fever In His or Her School District

1. When a teacher has reason to suspect that any person residing in his or her school district has scarlet fever, or when any child is absent from school because of what may be scarlet fever, he or she must make a

written report to the county quarantine officer within 24 hours, giving the name of the person or child, the name and address of the householder with whom the person or child lives, and the name of his or her school district.

2. No teacher shall reside in a home where there is a person sick with scarlet fever and conduct or attend a public or private school, unless housing conditions are such that the patient can be and is completely isolated.

3. The principal of each school must keep a copy of the posters and literature which point out the signs and symptoms of scarlet fever, as furnished to him or her upon application to the North Carolina State Board of Health, Raleigh, N. C.

4. When a teacher received official notice from the county quarantine officer that scarlet fever exists in a family patronizing his or her school, he or she is ordered to strictly enforce the following rules:

(a) He or she must exclude from his or her school each child living in that house, apartment, or room, and any other child known to have been intimately exposed for a period of 7 days after its last exposure.

(b) He or she must observe daily the children in his or her school for signs and symptoms of the disease, and is ordered and empowered to exclude immediately from school any pupil showing indications of scarlet fever for 7 days, or until the symptoms have subsided or a satisfactory certificate is presented, signed by a physician or the county health officer.

(c) He or she must report within 24 hours, to the county quarantine officer, the name of any child excluded and the name and address of the parent, householder, or guardian with whom the child resides.

(d) He or she must frequently call attention to the children the signs, symptoms, and the dangers of scarlet fever, and read aloud before the assembled school such letters and lectures, and send to the homes by the children such literature as he or she may receive from the county quarantine officer dealing with "Facts About Scarlet Fever."

(e) He or she, within 24 hours after receiving notification from the county quarantine officer of the presence of scarlet fever in his or her school district, must notify, by letter or otherwise, the superintendent of the Sunday school, church official, or some responsible person (when the address of such person is known), and have announced at any public meeting which is being held the prevalence of scarlet fever in his or her school district, its signs, symptoms, dangers, and precautions to be taken so as to prevent its spread.

(f) He or she must not permit the use of the common dipper, drinking cup, or open bucket when scarlet fever is present in his or her school.

Rules Governing the Management of Septic Sore Throat (Epidemic Tonsillitis), for Parents, Guardians, Householders and Adults

The following rules and regulations shall govern householders, parents, or guardians in whose home a case of septic sore throat (epidemic tonsillitis) exists:

Rule 1. He or she shall immediately and securely fasten, in the most conspicuous place near the main entrance of his or her home (when living in a hotel, apartment house, or rented room, upon the door leading

to their apartment or room), such placard as sent by the city or county quarantine officer to him or her; and in case such placard is removed in any way whatsoever the householder, parent, or guardian shall immediately notify the city or county quarantine officer so that the placard can be replaced. This placard must remain as specified for a period of 7 days from onset of the disease or until written permission is given by the city or county quarantine officer.

Rule 2. He or she shall report to the quarantine officer, giving the name and age of every person in his or her home that has septic sore throat (epidemic tonsillitis), date of onset, and name of school district, within 24 hours after he or she has evidence to believe that the child has septic sore throat (epidemic tonsillitis), specified in section 7152, Consolidated Statutes.

Rule 3. He or she shall not permit any child or minor who has septic sore throat (epidemic tonsillitis) to attend any public or private school, Sunday school, church meeting, theater, party or other public assemblage, or go near a public park or to appear upon a public street (unless riding in a private conveyance) while the house is placarded.

Rule 4. He or she shall not permit any child or minor who has been exposed to septic sore throat (epidemic tonsillitis) to attend any public or private school, Sunday school or other church meeting, theater, party, picnic or other public assemblage, or to go near a public park or upon a public street (unless riding in a private conveyance) within 3 days from the time of exposure.

Rule 5. He or she shall notify in some way the teacher, if a child or minor living in his or her house has septic sore throat (epidemic tonsillitis).

Rule 6. He or she must, upon request by the city or county quarantine officer, inform him of the name and address of any child or minor who has been exposed to septic sore throat (epidemic tonsillitis) in his or her home.

Rule 7. He or she shall not receive any milk from any one in any container that is to be returned, but must furnish his or her own vessel.

Rule 8. He or she must observe, during and at the termination of the disease, the following precautions adopted by the North Carolina State Board of Health for the prevention of the spread of septic sore throat (epidemic tonsillitis):

Rules for the Prevention of the Spread of Septic Sore Throat (Epidemic Tonsillitis)

(a) He or she must keep those having septic sore throat (epidemic tonsillitis) in rooms to themselves as well as housing conditions will permit.

(b) He or she must permit as few people as possible to act as nurse, using in no instance a person whose duty will make it necessary for that party to leave the premises prior to the termination of the quarantine, and should encourage those nursing to thoroughly wash their hands after each assistance to the sick.

(c) He or she must ventilate and sun the room, as instructed by the doctor.

(d) He or she must, as far as possible, see that the discharges from the nose and throat are properly disposed of by supplying the sick with paper napkins, rags, etc., to cover up the cough and sneeze. Such rags, etc., are to be burned after using them; and must allow no other child to use the same feeding utensils or drinking vessels used by a person who has septic sore throat (epidemic tonsillitis).

(e) All washable material, such as sheets, pillow-cases, towels, etc., which have been used by or in direct contact with the person having had septic sore throat (epidemic tonsillitis), must be either boiled on the premises or soaked for three hours in a solution of carbolic acid in the proportion of a tablespoonful to a pint of water, or a solution of that proportion or a preparation equivalent in antiseptic power.

Rules Governing Teachers and Principals of Schools On the Appearance of Septic Sore Throat (Epidemic Tonsillitis) In His or Her School District

1. When a teacher has reason to suspect that any person residing in his or her school district has septic sore throat (epidemic tonsillitis), or when any child is absent from school because of what may be septic sore throat (epidemic tonsillitis), he or she must make a written report to the county quarantine officer within 24 hours, giving the name of the person or child, the name and address of the householder with whom the person or child lives, and the name of his or her school district.

2. No teacher shall reside in a home where there is a person sick with septic sore throat (epidemic tonsillitis) and conduct a public or private school, unless housing conditions are such that the patient can be and is completely isolated.

3. The principal of each school must keep a copy of the posters and literature which point out the signs and symptoms of septic sore throat (epidemic tonsillitis), as furnished to him or her upon application to the North Carolina State Board of Health, Raleigh, N. C.

4. When a teacher receives official notice from the county quarantine officer that septic sore throat (epidemic tonsillitis) exists in a family patronizing his or her school, he or she is ordered to strictly enforce the following rules:

(a) He or she must exclude from his or her school each child living in that house, apartment, or room, and any other child known to have been intimately exposed for a period of 3 days after its last exposure.

(b) He or she must observe daily the children in his or her school for signs and symptoms of the disease, and is ordered and empowered to exclude immediately from school any pupil showing indications of septic sore throat (epidemic tonsillitis) for 3 days, or until the symptoms have subsided or a satisfactory certificate is presented, signed by a physician or the county health officer.

(c) He or she must report within 24 hours, to the county quarantine officer, the name of any child excluded and the name and address of the parent, householder, or guardian with whom the child resides.

(d) He or she must frequently call attention to the children the signs, symptoms, and the dangers of septic sore throat (epidemic tonsillitis), and read aloud before the assembled school such letters and lectures, and

send to the homes by the children such literature as he or she may receive from the county quarantine officer dealing with "Facts About Septic Sore Throat (Epidemic Tonsillitis)."

(e) He or she, within 24 hours after receiving notification from the county quarantine officer of the presence of septic sore throat (epidemic tonsillitis) in his or her school district, must notify, by letter or otherwise, the superintendent of the Sunday school, church official, or some responsible person (when the address of such person is known), and have announced at any public meeting which is being held the prevalence of septic sore throat (epidemic tonsillitis) in his or her school district, its signs, symptoms, dangers, and precautions to be taken so as to prevent its spread.

(f) He or she must not permit the use of the common dipper, drinking cup, or open bucket when septic sore throat (epidemic tonsillitis) is present in his or her school district.

Rules Governing Teachers and Principals of School on the Appearance of Smallpox In His or Her School District

1. When a teacher has reason to suspect that any person residing in his or her school district has smallpox or when any child is absent from school because of what may be smallpox, he or she must make a written report to the county quarantine officer within 24 hours, giving the name of the person or child, the name and address of the householder with whom the person or child lives, and the name of his or her school district.

2. No teacher shall reside in a home where there is a person sick with smallpox and conduct or attend a public or private school unless she has been successfully vaccinated.

3. The principal of each school must keep a copy of the posters and literature which point out the signs and symptoms of smallpox, as furnished to him or her upon application to the North Carolina State Board of Health, Raleigh, N. C.

4. When a teacher receives official notice from the county quarantine officer that smallpox exists in a family patronizing his or her school, he or she is ordered to strictly enforce the following rules:

(a) He or she must exclude from his or her school each child living in that house, apartment, or room, and any other child known to have been intimately exposed for a period of 21 days, unless such children have been protected against smallpox either by having had the disease or having been successfully vaccinated.

(b) He or she must observe daily the children in his or her school who have not had smallpox and who have not been successfully vaccinated against smallpox, for signs and symptoms of the disease, and is ordered and empowered to exclude immediately from school any pupil showing indications of smallpox for 21 days, or until the symptoms have subsided or a satisfactory certificate is presented, signed by a physician or the county health officer.

(c) He or she must report within 24 hours, to the county quarantine officer, the name of any child excluded and the name and address of the parent, householder, or guardian with whom the child resides.

(d) He or she must frequently call attention to the children the signs, symptoms, and the dangers of smallpox, and read aloud before the assembled school such letters and lectures, and send to the homes by the children such literature as he or she may receive from the county quarantine officer dealing with "Facts About Smallpox."

(e) He or she, within 24 hours after receiving notification from the county quarantine officer of the presence of smallpox in his or her school district, must notify, by letter or otherwise, the superintendent of the Sunday school, church official, or some responsible person (when the address is known) and have announced at any public meeting which is being held the prevalence of smallpox in his or her school district, its signs, symptoms, dangers, and precautions to be taken so as to prevent its spread.

(f) He or she must not permit the use of the common dipper, drinking cup, or open bucket when smallpox is present in his or her school.

Rules Governing the Management of Whooping Cough (Spasmodic Cough or Pertussis), for Parents, Guardians and Adults

The following rules and regulations shall govern householders, parents, or guardians in whose home a case of whooping cough (spasmodic cough or pertussis) exists:

Rule 1. He or she shall immediately and securely fasten, in the most conspicuous place near the main entrance of his or her home (when living in a hotel, apartment house, or rented room, upon the door leading to their apartment or room), such placard as sent by the city or county quarantine officer to him or her; and in case such placard is removed in any way whatsoever, the householder, parent, or guardian shall immediately notify the city or county quarantine officer so that the placard can be replaced. This placard must remain as specified for a period of 28 days from onset of the disease or until written permission is given by the city or county quarantine officer.

Rule 2. He or she shall report to the quarantine officer, giving the name and age of every person in his or her home that has whooping cough, date of onset, and name of school district, within 24 hours after he or she has evidence to believe that the child has whooping cough, as specified in section 7152, Consolidated Statutes.

Rule 3. He or she shall not permit any child or minor who has whooping cough to attend any public or private school, Sunday school, church meeting, theater, party, picnic or other public assemblage, to go near a public park or to appear upon a public street, unless riding in a private conveyance, while the house is placarded.

Rule 4. He or she shall not permit any child or minor who has never had whooping cough, but who has been exposed to whooping cough, to attend any public or private school, Sunday school or other church meeting, theater, party, picnic or other public assemblage, or to go near a public park or upon a public street, unless riding in a private conveyance, within 21 days from the time of exposure.

Rule 5. He or she shall notify in some way the teacher, if a child or minor living in his or her house has whooping cough.

Rule 6. He or she must, upon request by the city or county quarantine officer, inform him of the names and addresses of any child or minor who has been exposed to whooping cough in his or her home.

Rule 7. He or she must observe, during and at the termination of the disease, the following precautions adopted by the North Carolina State Board of Health for the prevention of the spread of whooping cough:

Rules for the Prevention of the Spread of Whooping Cough

(a) He or she must keep those having whooping cough in rooms to themselves as well as housing conditions will permit.

(b) He or she must permit as few people as possible to act as a nurse, using only those who have had whooping cough, if possible, and encourage those nursing to thoroughly wash their hands after each assistance to the sick.

(c) He or she must ventilate the room as instructed by the doctor in most diseases; the room must not only be well ventilated but also should admit as much sunshine as possible.

(d) He or she must, as far as possible, see that the discharges from the nose and throat are properly disposed of by supplying the sick with paper napkins, rags, etc., to cover up the cough and sneeze. Such rags, etc., are to be burned after using them; and must allow no other child to use the same feeding utensils or drinking vessels used by a person who has whooping cough.

(e) All washable material, such as sheets, pillow-cases, towels, etc., which have been used by or in direct contact with the person having had whooping cough, must either be boiled on the premises or soaked for three hours in a solution of carbolic acid in the proportion of a tablespoonful to a pint of water, or a solution of that or a preparation equivalent in antiseptic power.

Rules Governing Teachers and Principals of Schools On the Appearance of Whooping Cough In His or Her School District

1. When a teacher has reason to suspect that any person residing in his or her school district has whooping cough, or when any child is absent from school because of what may be whooping cough, he or she must make a written report to the county quarantine officer within 24 hours, giving the name of the person or child, the name and address of the householder with whom the person or child lives, and the name of his or her school district.

2. No teacher who knows he or she has never had whooping cough, but who has been intimately exposed to whooping cough in any home, shall conduct or attend a public or private school until 21 days after last exposure; nor shall he or she reside in a home where a person is sick with whooping cough unless housing conditions are such that the patient can be and is completely isolated.

3. The principal of each school must keep a copy of the posters and literature which point out the signs and symptoms of whooping cough, as furnished to him or her upon application to the North Carolina State Board of Health, Raleigh, N. C.

4. When a teacher receives official notice from the county quarantine officer that whooping cough exists in a family patronizing his or her school, he or she is ordered to strictly enforce the following rules:

(a) He or she must exclude from his or her school each child living in that house, apartment, or room who has not had whooping cough, and any other child known to have been intimately exposed for a period of 21 days after its last exposure.

(b) He or she must observe daily the children in his or her school who have not had whooping cough for signs and symptoms of the disease, and is ordered and empowered to exclude immediately from school any pupil showing indications of whooping cough for 14 days, or until the symptoms have subsided or a satisfactory certificate is presented, signed by a physician or the county health officer.

(c) He or she must report within 24 hours, to the county quarantine officer, the name of any child excluded and the name and address of the parent, householder, or guardian with whom the child resides.

(d) He or she must frequently call attention to the children the signs, symptoms, and the dangers of whooping cough and read aloud before the assembled school such letters and lectures, and send to the homes by the children such literature as he or she may receive from the county quarantine officer dealing with "Facts About Whooping Cough."

(e) He or she, within 24 hours after receiving notification from the county quarantine officer of the presence of whooping cough in his or her school district, must notify, by letter or otherwise, the superintendent of the Sunday school, church official, or some responsible person (when the address of such person is known), and have announced at any public meeting which is being held the prevalence of whooping cough in his or her school district, its signs, symptoms, dangers, and precautions to be taken so as to prevent its spread.

(f) He or she must not permit the use of the common dipper, drinking cup, or open bucket when whooping cough is present in his or her district.

"ADDENDA II"

REGULATIONS FOR THE SANITARY MANAGEMENT OF HOTELS

Office and Lobby

1. Windows of the office and lobby shall be clean and should equal one-eighth of floor space.

2. Illumination by artificial lights shall be sufficient to permit easy reading of ordinary newspaper type 18 inches from the eye.

3. Floor, walls and ceiling must be clean and free from spit, marks, dust, dirt, cobwebs, filth, or excessive fly marks.

4. Cuspidors should be kept in sufficient numbers for the accommodation of the guests, and shall be maintained in a sanitary manner.

5. Charges minimum and maximum for rooms with or without meals, in accordance with the plan or plans of which the hotel is operated, giving the exact transient rate, shall be kept posted in a conspicuous place.

Wash-Room

1. The lighting of the wash-room must be sufficient to permit the easy reading of ordinary newspaper type 18 inches from the eye.
2. Windows must be kept clean, and screened from March 1 to December 1.
3. Ventilation must be sufficient to prevent foul odors. A door which is the only opening in a toilet room shall not constitute sufficient ventilation.
4. Floor, walls, ceiling, lavatory, urinals, and commodes must be clean.
5. Individual towels, either cloth or paper, must be supplied.
6. Soap, preferably liquid or powdered soap, should be provided.
7. Lavatories and commodes must be kept in good repair and in working order.

Dining-Room

1. Windows must be kept clean. The window space should equal at least one-eighth of the floor space. Adequate ventilation must be provided, either by sufficient window area or special ventilating devices.
2. Windows and doors must be thoroughly screened and screens kept in repair from March 1 to December 1.
3. Artificial illumination must be sufficient to permit the easy reading of ordinary newspaper type 18 inches from the eye.
4. Floor, walls and ceiling must be free from grease marks, dirt, dust, filth, cobwebs and excessive fly marks.
5. Table linen must be clean. A clean napkin, either cloth or paper, must be provided for each guest.
6. Tableware must be free from grease as detected by ordinary handling and must in every way be clean.
7. Food which is moldy, stale, tainted or otherwise deteriorated shall not be served to customers.
8. Portions of food once served to customers shall not be served again to other customers.
9. Flies must be kept out of the dining-room.
10. Fly traps, fly-paper, and such other additional measures shall be utilized to assist in the elimination of flies.

Kitchen and Pantry

1. Windows shall equal one-eighth of the floor space and must be kept clean. Where necessary to prevent excessive grease, smoke and odors, ventilating fans or range hoods or both must be provided.
2. Windows and doors must be screened from March 1 to December 1 with screens kept in good repair.
3. Artificial illumination of the kitchen must be sufficient to permit the easy reading of ordinary newspaper type 18 inches from the eye.
4. Floor, walls and ceiling must be clean, free from grease, spots, dirt, filth, cobwebs and excessive fly marks.
5. Cooking utensils must be kept clean, and all except utensils in which frying and baking is done must be free from grease as indicated by ordinary handling.
6. Dishes must be washed in hot water with soap or cleanser and subsequently rinsed in boiling water before drying.

7. Dish towels must be clean.
8. Flies, roaches, insects and rodents must be eliminated.
9. Fly-paper, traps and such other additional measures shall be utilized to assist in the elimination of flies and rodents.
10. Cupboards must be kept clean and free from offensive odors and musty smells. The contents should be neatly arranged.
11. Refrigerators must be clean and free from musty, putrescent or other disagreeable odors.
12. Food shall be prepared and handled in a sanitary manner and shall be kept under cover, except raw vegetables which are to be cooked, at all times when not in process of preparation and serving.
13. Milk should be either certified or pasteurized or obtained from a reputable dairy.
14. Garbage shall be kept in covered cans or barrels and shall be removed at least twice a week.

Halls and Stairs

1. Light, either natural or artificial or both, sufficient to permit the reading of ordinary newspaper type shall be provided.
2. Floors, walls and ceiling must be clean and free from spit marks, dust, cobwebs, and excessive fly marks.

Bedrooms

1. Windows must be clean and equal in area to one-eighth floor space.
2. Air space in the proportion of 500 cubic feet for each intended occupant shall be provided; also not less than 60 square feet of floor space for each intended occupant.
3. Screens shall be kept in windows throughout the entire fly season and maintained in good repair.
4. Artificial illumination must be sufficient to permit the easy reading of ordinary newspaper type 18 inches from the eye.
5. Shades, movable, or blinds having hinges or shutters or slats freely movable and in good working order, which will effectively exclude light when drawn, shall be provided for the windows of each sleeping room.
6. Crockery must be kept clean and provided in sufficient amount for each person.
7. Beds must be placed at least two feet from one another when there is more than one bed in a room, and so arranged that the air can circulate freely under each. In no hotel shall beds or bunks in the same room or apartment be placed one above the other except as temporary arrangement in the case of emergency.
8. Two sheets shall be provided for each bed. The top sheet shall be not less than ninety inches in length and shall be folded back at the head of the bed over the other covering for at least six inches. All sheets shall be of sufficient width and length to tuck under the mattress.
9. All pillow slips and sheets, after being used by one guest, must be washed and ironed before used by another guest; a clean set being furnished each succeeding guest.
10. Floors, walls and ceiling, including carpeting, must be clean.
11. Vermin, bugs, roaches in sleeping rooms must be eliminated.

12. Every room, after being occupied by any one known or suspected to be suffering from tuberculosis, diphtheria, or any contagious disease, must be thoroughly disinfected as prescribed by the State Board of Health before further occupancy; and every room, after being occupied by any one known or suspected to be suffering from measles or whooping cough, must be thoroughly aired for twenty-four (24) hours before subsequent use.

13. Rates of charges for each room, with or without meals, giving the rate per person per day or week, and the rate for each person in the room, must be posted conspicuously in each room.

Water Supply

1. Water of known purity must be supplied at every hotel.

2. Springs and wells must be protected against the access of filth and surface drainage. Every well must be provided with water-tight platform, and, except artesian wells, should be provided with pump.

3. A sample of the water used for the hotel, except in case of public water supplies, must be submitted to the State Laboratory of Hygiene twice each year for analysis with a certificate that it is the water used by the hotel. If the sample is found by the Laboratory to be unfit for use, or if a sanitary survey shall disclose conditions rendering the water supply potentially unsafe, the further use of the water shall be discontinued until permission is granted by the State Board of Health to resume the use of such water.

4. Individual drinking cups or drinking fountains, approved by the State Board of Health, must be provided. The use of the common drinking cup or dipper is prohibited.

Sewage

1. Sanitary sewerage connected to the public sewerage system shall be provided for every hotel in a city, town or village where a system of public waterworks and sewerage is maintained, provided the hotel is accessible to such public water and sewerage system.

2. Water closets suitable for the accommodation of the guests shall be provided.

3. Water closets shall be trapped and provided with an adequate system of flushing in such manner as to effectively remove all filth and waste and to prevent escape of sewer gas.

4. Sanitary privies, constructed and maintained in accordance with the regulations of the State Sanitary Privy Law, shall be provided for hotels inaccessible to public sewerage system.

Servants

1. The management shall hold a medical certificate, given by a reputable physician or health officer, for each and every cook and waiter employed in the hotel, certifying that the servant is free from tuberculosis, syphilis, and is not a typhoid carrier.

2. Servants handling food must be clean, both with regard to their person and clothing.

3. Cooks and other kitchen help should wear clean, white coats or special dress.

4. Waiters or waitresses should wear clean white coats or special dress.

Surroundings

1. All cisterns, tanks or other receptacles containing standing water must be kept screened or otherwise so covered as to prevent the entrance of flies, mosquitoes, or other disease-bearing insects.

2. Rubbish, tin cans and accumulation of filth shall not be allowed on the premises connected with the hotel.

3. Standing pools or bogs on the premises connected with the hotel shall be drained or the surface covered with oil. The management should attempt to have such conditions in the vicinity remedied.

Plan of Scoring on Sanitary Management of Hotels

	Score: Basis 1,000
Office and Lobby:	Potential Recorded
Ventilation 5, illumination 15_____	20
Cleanliness _____	30
Wash-Room:	
Illumination 5, ventilation 15, fixtures 10, towels 10_____	40
Liquid or powdered soap 5, cleanliness 25_____	30
Dining-Room:	
Screens 15, illumination 15, cooking utensils 20, table linen 20___	70
Cleanliness 40, ventilation 10, flies 30_____	80
Kitchen and Pantry:	
Screens 15, illumination 15, cooking utensils 20, refrigerator 30, flies 40 _____	120
Cleanliness 40, ventilation 20, dish-washing 30, food-handling 40	130
Halls and Stairs:	
Lighting _____	5
Cleanliness _____	15
Bed-Rooms:	
Windows 10, screens 10, illumination 10, linen 25, shades 5, vermin 40 _____	100
Cleanliness _____	40
Servants:	
Certified against syphilis, tuberculosis and typhoid carrier_____	30
Kitchen help—white coats and caps 5, clean 25_____	30
Waiters—white coats or special dress 5, clean 25_____	30
Milk Supply:	
Approved _____	30
Pasteurized or certified, 20 additional_____	50

Water Supply:

Protected (open dug well 30, dug well and pump 40, spring 30, driven or drilled well and pump 50)-----	150
Artesian well 60, public water supply 60-----	120
Individual drinking cups-----	20
Sewerage-----	60
Approved privy-----	40
Absence of: sewerage (additional)-----	20

Surroundings:

"Standing water" protected 10, garbage disposed of 10-----	20
Absence of: mosquito breeding 10, rubbish or exposed garbage 10-----	20
Potential total-----	1,000
Total score recorded-----	----
Score reduced to basis of 100-----	----
Deductions from potential score on account of lack of public sanitary improvements over which management has no control---	----

MINUTES MEETING OF THE NORTH CAROLINA STATE BOARD OF HEALTH

Raleigh, N. C., December 10, 1921.

The members of the Board present were: President Way, Mr. Waddell, and Doctors Laughinghouse, Harris, Anderson, Crowell, Thompson, Tucker and Lewis.

The minutes of the meeting of the Board at Pinehurst were read and approved.

The Board began the consideration of the following agenda:

Agenda for the Board Meeting Raleigh, N. C., December 10

1. Consideration of the Sheppard-Towner Act:
 - (a) Explanation.
 - (b) Organization of State agency. See resolution.
Time allowed: 45 minutes.
2. Repeal of Policy for Consulting Engineer.
Time allowed: 30 minutes.
3. System of Cost Equivalents in County Health Work:
 - (a) Exhibit.
 - (b) Resolution.
Time allowed: 45 minutes.
4. Amendment Rules and Regulations Relating to Ponds on Watersheds.
Time allowed: 30 minutes.
5. Distribution of State Antitoxin.
Time allowed: 45 minutes.
6. Report of the Work at the Sanatorium.
Time allowed: 30 minutes.
7. Developments in Guilford County.
Time allowed: 30 minutes.

The first item taken up for consideration was that of the Sheppard-Towner Act. The Secretary briefly explained the provisions of the bill, related a conference with Miss Grace Abbott, Director of the Federal Children's Bureau, on the 7th of December, with respect to the future relation between the Board and the Bureau, and asked the Board of Health to pass a resolution definitely setting aside a part of the appropri-

tion for financial participation with the Federal Children's Bureau for carrying out the provisions of the aforesated act. The Board unanimously adopted the following resolution:

Resolution by the North Carolina State Board of Health Accepting the Provisions of Senate Bill 1039, Entitled "An Act for the Promotion of the Welfare and Hygiene of Maternity and Infancy, and for Other Purposes"

Resolved by the North Carolina State Board of Health, that a sum not to exceed \$25,000 annually is hereby set aside out of the general appropriation for the purposes of the Board made in chapter 86, section 35, Public Laws of North Carolina, session 1921, for meeting the conditions necessary to make available for the State of North Carolina the provisions contained in Senate Bill 1039, enacted by the 67th Congress, and entitled "An act for the promotion of the welfare and hygiene of maternity and infancy, and for other purposes."

The Secretary next brought to the attention of the Board certain objections which had recently come to him relating to the policy of using a consulting engineer. The Secretary stated that some of these objections had come from valuable and sincere friends of the Board, and among them mentioned the Governor of the State and Mr. Robt. N. Page. The Secretary stated further that the policy for a consulting engineer at the time of its adoption could unquestionably be successfully defended, but that with the enlargement of the Bureau of Engineering and with the confidence of the Board more fully established in that Bureau, the necessity for continuing the policy had passed, and he recommended that a resolution discontinuing the policy be adopted. The following resolution was then offered and unanimously adopted:

Resolution of the North Carolina State Board of Health Discontinuing the Policy of a Consulting Engineer

"Whereas, in the initial stages of the organization of the Bureau of Engineering and Inspection, and at a time when the Bureau was under the direction of an officer with whom the Board was acquainted only by testimonials and not by official contact, the Board thought it wise to check the approval of the said Bureau of Engineering and its director by arranging for the services of a consulting engineer to approve the findings and recommendations of its staff officer; and

"Whereas the Bureau of Engineering and Inspection has developed now, both in personnel and in experience, and grown in the confidence of the Board to a point where the Board feels that it is no longer necessary or wise to use a consulting engineer to check the findings and recommendations of the said bureau; Therefore, be it

"Resolved by the North Carolina State Board of Health, That its policy of employing a consulting engineer is hereby discontinued, and the executive officer of the Board is directed to express the appreciation of the Board to Mr. J. D. Justin for his efficient services as a consulting engineer for the past two years, and to notify Mr. Justin that on and after January 1, 1922, the Board will discontinue the aforesaid policy."

The Board then began the consideration of the cost credits for its work with county health departments as a basis of State and county co-operation in public health work. Dr. Miller, Director of the Bureau of County Health Work, explained the operation of co-operation based upon cost

equivalents as it had developed during the last six months of the present year. All members of the Board seemed especially interested in the principle as a means of (a) eliminating politics in county health departments; (b) promoting efficiency, and (c) regarding the Board in an impersonal and businesslike relation to the local health departments. After considerable discussion and favorable comment the following resolution was adopted:

"Be it Resolved by the North Carolina State Board of Health, That on and after January 1, 1922, the executive officer and the Bureau of County Health Work is hereby directed to condition the financial participation of the Board with county health departments upon (1) the establishment of essential items of service rendered, (2) the adoption of a series of reasonable cost credits for the said items, and (3) the payment by the State of the funds available for the county to the local department in the proportion of its earnings on the dollar expended."

The Board then turned its attention to the matter of amending the rules and regulations relating to public water supplies, and after statements by Mr. H. E. Miller, the sanitary engineer of the Board, and after some questions and discussions, adopted the following amendments and additions to the rules and regulations governing water supplies:

Amendments to Rules for Protection of Surface Water Supplies

1. "Rule 4, Special Bulletin No. 3, entitled 'Protection of Surface Water Supplies With Drainage Area of Less Than Twenty Square Miles,' shall be amended by adding: 'Provided, however, that the duly authorized officials of the municipality served by such water supply may in their discretion permit persons owning property on the watershed, and such persons only, to fish in such ponds or streams on their premises by a special permit issued by the municipality, provided such permit is approved by the State Board of Health. The commission of a nuisance in, on or along such pond or stream by any permit-holder or a violation of any of the other rules pertaining to the protection of such stream or pond by any such permit-holder shall render the permit null and void, and it shall not be renewed within a period of two years thereafter.'

2. "Rule 4, Special Bulletin No. 4, entitled 'Protection of Surface Water Supplies With Drainage Area Between Twenty and Fifty Square Miles,' shall be amended by inserting before the last sentence thereof the following: 'Provided, however, that the duly authorized officials of the municipality served by such water supply may in their discretion permit persons owning property on the watershed within a distance of ten miles above the waterworks intake, and such persons only, to fish in such ponds or streams on their premises by a special permit issued by the municipality, provided such permit is approved by the State Board of Health. The commission of a nuisance in, on or along such pond or stream by any permit-holder, or a violation of any of the other rules pertaining to the protection of such streams or pond by any such permit-holder, shall render the permit null and void, and it shall not be renewed within a period of two years thereafter.'

3. "Rule 4, Special Bulletin No. 5, entitled 'Protection of Surface Water Supplies With Drainage Area Between Fifty and One Hundred Square Miles,' shall be amended by inserting before the last sentence thereof the following: 'Provided, however, that the duly authorized officials of the municipality served by such water supply may in their discretion permit persons owning property on the watershed within a distance of five miles above the waterworks intake, and such persons only, to fish in such ponds or streams on their premises by a special permit issued by the municipality, provided such permit is approved by the State Board of Health.'

The commission of a nuisance in, on or along such pond or stream by any permit-holder, or a violation of any of the other rules pertaining to the protection of such streams or pond by any such permit-holder, shall render the permit null and void, and it shall not be renewed within a period of two years thereafter.'

4. "Rule 4, Special Bulletin No. 6, entitled 'Protection of Surface Water Supplies With Drainage Area of More Than One Hundred Square Miles,' shall be amended by inserting before the last sentence thereof the following: 'Provided, however, that the duly authorized officials of the municipality served by such water supply may in their discretion permit persons owning property on the watershed within a distance of five miles above the waterworks intake, and such persons only, to fish in such ponds or streams on their premises by a special permit issued by the municipality, provided such permit is approved by the State Board of Health. The commission of a nuisance in, on or along such pond or streams by any permit-holder, or a violation of any of the other rules pertaining to the protection of such streams or pond by any such permit-holder, shall render the permit null and void, and it shall not be renewed within a period of two years thereafter.'

5. "Watershed regulations as they are now constituted shall apply hereafter only to watersheds of water supplies filtered and sterilized.

6. "The watersheds of water supplies not filtered and sterilized shall not be controlled hereafter by regulations of Special Bulletins 3, 4, 5 and 6, but shall be controlled by the following regulations:

(1) "The watershed shall be conspicuously posted along its margin, and should be fenced.

(2) "The watershed shall be owned or under equivalent control by the municipality or water company.

(3) "No grazing, pasturing, fishing, hunting, trapping, boating, bathing, picnicing, timber cutting or trespass of any nature whatsoever by persons or domestic animals shall be permitted in or upon the watershed, reservoir or basin from which the public water supply is obtained: Provided, however, that this regulation shall not hinder the wardens, caretakers, or watershed inspectors employed by the municipality or water company, and engaged in the patrol and policing of the watershed, from performing his duties, nor hinder an officer or inspector of the State Board of Health from entering upon the watershed for the purpose of making any inspection which the State Board of Health may deem necessary in the interests of the public health.

(4) "The watershed shall be patrolled regularly by an inspector, warden or caretaker employed by the municipality or water company who shall enforce the regulations pertaining to trespass and otherwise exercise all possible diligence to locate and remove or remedy any conditions which may in any way endanger the quality and safety of the water supply."

RULES RELATING TO THE TREATMENT OF PUBLIC WATER SUPPLIES BY THE STERILIZATION PROCESS

I

Surface Water Supplies Not Filtered

1. "On and after June 1, 1922, all surface public water supplies approved without filtration shall be safeguarded and protected by the installation of a recognized process of water treatment, chlorine sterilization, either by means of the chlorine gas or hypochloride of lime solution treatment process, shall constitute the minimum acceptable degree of treatment.

2. "The operation of the treatment process shall be continuous and conducted without interruption in such manner that all water furnished to consumers shall be effectively sterilized.

3. "The operator shall control chlorine sterilization process by means of the orthotolidin or equivalent test applied at least daily.

4. "A daily record of operation shall be submitted to the State Board of Health monthly on forms prepared and furnished by the State Board of Health.

5. "The chlorine sterilization process shall constitute the second line of defense against pollution of the water supply and shall not be considered as relieving the necessity or taking the place of rigid watershed protection in any degree whatever."

II

Surface Water Supplies Filtered

1. "On and after June 1, 1922, all surface public water supplies treated by filtration shall be further safeguarded and protected by the installation of process of treatment for the sterilization of the filter effluent. Either chlorine gas or hypochloride of lime solution process of treatment will be acceptable.

2. "The operation of the sterilization process of treatment shall be continuous and conducted without interruption in such manner that all water furnished consumers shall be effectively sterilized.

3. "The operator shall control the sterilization treatment by means of the orthotolidin or equivalent test applied at least daily.

4. "A daily record of operation shall be submitted to the State Board of Health monthly on forms prepared and furnished by the State Board of Health.

5. "The chlorine sterilization treatment shall constitute a second line of defense in water purification, and shall not be considered in any degree whatsoever as relieving the necessity of (a) rigid watershed protection, or (b) securing the maximum acceptable degree of efficiency in filtration."

III

Wells and Springs

1. "Whenever a well or spring used as a source of public water supply shall be found to be polluted as indicated by bacteriological analysis, or whenever in the opinion of the State Board of Health the condition of such well or spring is such as to endanger the health of the consumers of the water supply derived from such source, the municipality or water company shall forthwith safeguard and protect the consumers of the water supply derived from such well or spring by the installation of chlorine sterilization process of treatment of the water. This may be accomplished either by the chlorine gas or the hypochloride of lime solution process of treatment.

2. "The operation of such treatment process shall be continuous and conducted without any interruption in such manner that all water furnished to consumers shall be effectively sterilized.

3. "The operator shall control chlorine sterilization process by means of the orthotolidin or equivalent test applied at least daily.

4. "A daily record of operation shall be submitted to the State Board of Health monthly, or at such other intervals as may be deemed necessary, on forms prepared and furnished by the State Board of Health.

5. "In case such a water supply cannot be so improved as to meet the approval of the State Board of Health, the supply shall be abandoned in favor of a source of supply which will meet with the approval of the State Board of Health."

WATER SUPPLY REGULATIONS PERTAINING TO VALVES, CROSS-CONNECTIONS, BY-PASSES AND EMERGENCY INTAKES

1. "The introduction of any water into the distribution system of a public water supply through any valve, cross-connection, by-pass or emergency intake from any source whatever except from the source of supply

duly authorized and approved by the State Board of Health, and which has not been effectively treated by the purification process approved by the State Board of Health, where such purification has been required, is prohibited: Provided, however, that this rule may be waived in case of fire of such unusual proportions as to create a demand in excess of the capacity of the storage production and treatment facilities of obtaining water from the approved source.

2. "In case it becomes necessary to take advantage of the provision in section 1, the duly authorized officials of the municipality shall immediately warn all consumers to boil all water used for drinking and culinary purposes until further notice.

3. "Within one hour from the time such valve, by-pass, cross-connection, or emergency intake is opened permitting the entrance of water, other than water from the duly authorized source of public water supply, into the distribution system, the officials of the municipality shall notify the State Board of Health and the municipal health officer.

4. "As soon as the emergency has passed and the additional water is no longer needed for fighting fire as specified above, the valve, by-pass, cross-connection or emergency intake shall be closed, the system shall be thoroughly flushed, cleansed and sterilized, samples of tap water shall be forwarded to the State Laboratory of Hygiene for analysis, and the boiling order shall not be released until bacteriological analysis of the tap water indicates the water of the distribution system to be free from pollution and until the State Board of Health has approved the continued use of the water without boiling.

5. "On or before June 1, 1922, every municipality or public water company operating a water system in which there is a connection for the introduction of water through any valve, cross-connection, by-pass or emergency intake from any source whatever except from the approved source of water supply, or in which there is any connection between the public water supply system and an industrial or other water supply system by check valve or any other device, shall submit to the State Board of Health a plan of the layout of the water supply distribution system indicating such valves, cross-connections, by-passes or emergency intakes thereon together with a list of such connections and a description of each."

The next matter of business taken under consideration was the distribution of antitoxin by the State Laboratory of Hygiene. There were present with the Board when this topic was considered Mr. F. O. Bowman, of Chapel Hill, N. C., representing the North Carolina Pharmaceutical Association, and Mr. H. T. Hicks, of Raleigh, also representing the Pharmaceutical Association. Dr. C. A. Shore, of the State Laboratory of Hygiene, was also present. Mr. Bowman and Mr. Hicks both made statements to the Board and Mr. Bowman read letters from representative druggists throughout the State with a view to making clear to the Board that the druggists objected to two of its activities relating to the distribution of antitoxin. The first objection was that the druggists in keeping and distributing antitoxin sustain an actual loss brought about through (a) the cost of refrigeration necessary to keep the antitoxin at a high degree of potency, or (b) on carrier service in distributing the antitoxin, or (c) on failure to collect for antitoxin distributed to customers, or (d) sometimes in payment of postage or expressage on return of antitoxin. The druggists seem to feel that more remuneration should be provided or allowed them for service of distribution, and that it was unfair for the State to expect them to distribute the antitoxin at an actual loss. The second objection which the druggists lodged against the Board was

that in its educational work through the Bulletin, and more especially through letters addressed to homes where cases of diphtheria had occurred, a certain per cent of readers of certain literature and letters were led by implication, rather than by direct statement, to believe that druggists in certain instances had charged them too much for antitoxin. Mr. Bowman did not cite specifically any Bulletin or any letter from which the aforesaid implication could be derived.

Dr. Shore stated that he felt that the distribution of antitoxin should not in any way be commercialized; that his hope was to make the distribution direct from the laboratory to physician to as large an extent as possible, and where such direct distribution could not be obtained, on account of the desire of the local profession to obtain their antitoxin from local depositories rather than get it themselves, to interest the county authorities in arranging and providing convenient depositories. Dr. Shore pointed out that he had never made any official request of the druggists to distribute antitoxin, but that there had been mailed out a letter from the Bureau of Epidemiology making such a request. It appeared from the statement of the druggists and from the statement of Dr. Shore that the druggists were in a position of having to keep the antitoxin for the convenience of local physicians who themselves did not want to keep it, and that the druggists, not being in a position to ignore the convenience of the local medical profession, were indirectly compelled for the protection of their trade to carry the antitoxin, and this unremunerative, not to say losing, position which they sustain in carrying the antitoxin was resented. After much discussion and questioning by different members of the Board the following resolution was put and carried:

"Resolved, That the State Board of Health inform the druggists that it appreciates the difficulties of their position, and is especially pleased with the friendly manner in which they present their grievance, and that it will give serious thought to the matter of bringing about some more agreeable adjustment of the interests involved."

The Secretary states that the Superintendent of the State Sanatorium had called him by long distance telephone early in the morning to say that the program of construction provided by the Board at its last meeting in April, at Pinehurst, was being carried out in a satisfactory way, and that he had nothing in particular to occupy its time, and would therefore not be present unless the Board had some special matters that it wishes to take up with him. The Secretary further stated that he told Dr. McBrayer that the Board had rather a full program for the time that it would be in session, and in the light of his statement he saw no reason for him being present.

The Secretary of the Board then reported what he termed a very interesting development taking place, though yet in a rather embryonic state, in the Guilford County Medical Society. The Secretary stated that the larger proportion of the medical problem was, at the present time, uncared for by the profession—in short, that there was more medical work needing to be done and not done than is being handled at present by the profession. The Guilford County Medical Society has further recognized the fact that it is not only good humanity and highly ethical professionally,

but good business for both the public and the profession, for the profession to so organize itself as to begin to cultivate the large medical field lying beyond the present limits of practice. To do this it would be necessary for the Society to become more than a mere paper organization with a monthly meeting for a few scientific discussions; it would be necessary for the profession to become so organized as to express itself not simply in a constitution and by-laws or in a monthly discussion, but in a definite, co-ordinated, sustained program of work. To do this the Guilford County Medical Society proposes for its sixty-five or seventy members to give something like 500 lectures on topics of hygiene and sanitation at about twenty-four different places in Guilford County during the next year, and organize themselves to hold free diagnostic clinics—the two main clinic points being at Greensboro and High Point. Each clinic will be open to the public eight hours a week and four shifts of nine physicians each will have charge of the clinics. It is easily possible for the Society to make some 5,000 examinations during the year. While this program in its entirety seems a large undertaking, the Secretary pointed out that for the individual member of the Society it requires only one lecture a month and two clinic hours per week. The Secretary pointed out further the value of giving the preparation of standard addresses full consideration by the county society (as is proposed) and its educational effect on physicians; also the educational effect within the profession that will be derived from group practice in dispensary groups. The Secretary pointed out, too, that it was possible for such an organization to hold monthly clinics with country practitioners, assisting the doctor with the country practice in the development of his medical resources, rendering the community an invaluable public service and giving the individual citizen the benefit of a group conference. There were other interesting features in the program pointed out. The Secretary stressed the value of organized work such as that outlined by medical societies, comparing it to the work of full-time health officers, and called attention to the fact that such a program as that being considered by the Guilford County Medical Society, if carried through, would do more in one year for the public health of that county than a public health department could in five or ten years.

At this point the new member of the Board, Mr. Charles E. Waddell, of Asheville, expressed his pleasure in becoming a member of the Board, and also expressed his deep regret at having to replace so able a man as Col. Ludlow. Mr. Waddell stated that he had urged the Governor to reappoint Col. Ludlow but the Governor had insisted upon his accepting the position, which he had finally consented to do. Mr. Waddell was most complimentary in his reference to Col. Ludlow.

The Secretary then read a letter recently received from Col. Ludlow, stating that he especially desired the Board and Mr. Waddell to hear Col. Ludlow's estimate of his successor. The letter from Col. Ludlow is as follows:

December 6, 1921.

Dr. W. S. Rankin,
State Health Officer,
Raleigh, N. C.

Dear Dr. Rankin:

This is to acknowledge your kind favor of November 30th and to express my sincere appreciation of the contents thereof and the kindly sentiment expressed therein.

The severing of my membership with the State Board of Health, with which I have been connected so long and so actively, seems much like discontinuing a cherished life habit and a separation from active association with a lifelong friend. But perhaps it is best that it should be so.

I shall ever cherish the fact that I have had the opportunity of being of some real service to the State by having had an active part in formulating and directing the policies and activities of the State Board of Health, particularly in relation to the high standard of public health practice regarding the utilities and sanitary practices of its cities and towns. I hope I may be justly conscious of having been able to render substantial assistance to the Board, not only in establishing a high standard of efficiency in municipal utilities relating to public health, but also in keeping the record of the Board such that no reproach can attach to the exercise of the functions which the law places on it in these matters.

I shall also cherish with fond recollections my association with the personnel of the Board, their hearty co-operation, and the confidence reposed by delegating me to act for and to represent the Board in the engineering functions included in its duties under the law. Likewise I shall cherish the pleasant official relations which I have had with you as State Health Officer, and with Dr. Lewis and Dr. Wood, your predecessors in that office, as well as with the several members of the office staff with whom my duties have brought me in contact.

I have the pleasure of knowing Mr. Waddell very well and very pleasantly, and feel sure that he will make a very able and active member of the Board, and that you will find your official relations with him pleasant and agreeable in every way. He is not only possessed of high intellectual attainments, but is a gentleman in every respect, and I believe you will find him a worthy successor to a veteran in the cause.

I am looking forward with pleasure to the opportunity of seeing you in Greensboro Friday night at the meeting of the American Waterworks Association.

With kind personal regards and best wishes.

Very truly yours,
J. L. LUDLOW.

jll—dhh

A motion to adjourn was then made and carried.

MINUTES ANNUAL MEETING OF THE NORTH CAROLINA STATE BOARD OF HEALTH

Winston-Salem, N. C., April 24, 1922.

President Way not being in the room, and being delayed on account of important business in the House of Delegates, the members of the Board present requested Dr. Richard H. Lewis to act as chairman and call the meeting to order. Other members of the Board present were Drs. Anderson, Crowell, Harris, Thompson and Tucker.

The minutes of the last meeting were hastily reviewed by the Secretary and approved.

Dr. Carl V. Reynolds, Health Officer of Asheville, N. C., came before the Board, and, after describing the exceptional factors in the public

water supply of Asheville and emphasizing especially the purity of the said water supply and its safety from pollution, called attention to the presence of *b. coli*, of animal rather than human origin, to the official notice of the Federal authorities with respect to their interest in the hospitals at Oteen and Kenilworth and in the Federal regulations relating to water supply for railroads and their recommendations that some form of chlorination of the public water supply of Asheville be installed on account of the remote possibility of possible contamination with human pollution. Dr. Reynolds asked the Board to express itself with respect to the advisability of installing a chlorinating outfit.

At this time Dr. Way came in and took the chair. The following resolution was adopted by the Board:

"Resolved, That it is the sense of the North Carolina State Board of Health, first, that the city of Asheville is most fortunate in the character of its public water supply; second, that while the possibility of pollution with human filth is exceptionally remote, nevertheless the presence of *bacillus coli* in the official analysis of the water are likely to be unduly and unfavorably interpreted by persons not familiar with the natural factors of safety related to the said supply; and third, that in order to eliminate unnecessary suspicion a chlorinating plant should be installed."

Dr. Reynolds then asked the Board's advice on the advisability of prohibiting, by local ordinance, parades by the public school children of Asheville. It was the sense of the Board that this matter is one for the local administration and should be wisely dealt with by the local authorities throughout the State according to the circumstances of the time and place as related to the possibility of epidemics.

The following report by the Section on Eye, Ear, Nose and Throat was then brought to the attention of the Board:

**Report of Committee Appointed to Confer With the State Board of Health
In Regard to the Manner of Conducting Free Tonsil and
Adenoid Clinics In North Carolina**

To the Eye, Ear, Nose and Throat Section:

We, your committee appointed last year to meet with the State Board of Health, and to consider and work out a feasible plan of conducting these clinics, have held several conferences, and as a result of our deliberations wish to make the following recommendations:

1. We recommend that the present law be so amended that the State tonsil and adenoid clinics be held only in counties in which the county board of health approves the clinics.

2. We recommend that the manner of conducting clinics in said counties be approved by the county board of health.

3. (a) We deem the surgeon personnel of these operating teams a very important feature of these free clinics. We therefore recommend that the surgeon selected shall limit his practice to this specialty.

(b) That the surgeon in charge shall either have had one year as interne in an eye, ear, nose and throat hospital, or shall have had three years experience in eye, ear, nose and throat work.

4. Finally, we recommend a continuance of a similar committee to confer with the State Board of Health relative to these matters.

5. This resolution to be effective from and after January 1, 1923.

(Signed)

H. H. BRIGGS, Chairman.

C. H. BANNER.

J. P. MATHESON.

The Board approved the position taken by the Section on Eye, Ear, Nose and Throat and instructed its executive officer to be governed in accordance with the resolution.

A letter under date of April 12 from Mr. Frederick O. Bowman, representing the North Carolina Pharmaceutical Association, requesting the Board to take some action with respect to the distribution of biological products of the State Laboratory of Hygiene was then read. It was moved that the Secretary of the Board notify Mr. Bowman that his letter had been brought to their attention, and that, on account of the Board having decided to hold a special meeting in September or October of this year to consider its legislative program, budget, etc., and further, on account of the character of Mr. Bowman's request being possibly related to the matter of legislation and budget, it was decided to defer action until the fall meeting, at which time the Board will be glad to have Mr. Bowman present to discuss the production and distribution of biological products and indicate what changes he advocates in the present arrangements.

A letter from Dr. Karel Driml, of the Ministry of Public Health and Physical Education of Czecho-Slovakia, was then brought to the attention of the Board. The Board expressed itself as highly appreciative of the letter from Dr. Driml and authorized the President to make such use of the letter as he thought advisable.

The following resolution, expressing the appreciation of the Board and the conjoint session of the services of Colonel Ludlow, was read and enthusiastically approved:

"North Carolina State Board of Health, in the forty-fifth regular annual session convened, desires to place on its record, and as well the records of the Medical Society of the State of North Carolina, its appreciation of his valued service, and as well its regret at the retirement from its membership of Col. J. L. Ludlow, C.E., of Winston-Salem.

"Coming on the Board in the year 1888 by appointment of his Excellency, Governor Alfred A. Scales, who serving by continued appointments since from Governors Fowle, Aycock, Kitchen and Craig, Colonel Ludlow has to his credit a period of service with this Board equaled in length by only a single gentleman, and surpassed by none in his due appreciation of the great and important responsibilities inherent in such intelligent zeal in discharging the same.

"Much of the constructive endeavors of the Board during his long service as engineer member bears the mark of his fertile brain, and the intimate details and manifold regulations pertaining to the many vital problems relating to questions of water, sewerage, etc., during the years of greatest development in Carolina's history, exhibit the imprint of his thoughtful care and earnest consideration.

"We congratulate the people of the State on his fine service to them.

"We tender him our thanks for the great help he ever gave to his confreres in their important work, and remembering with affection his kindly spirit of good cheer, part with his wise counsel and his pleasing personality with genuine regret, and wish him every success in all his laudable undertakings."

A motion to adjourn was then made and carried.

**MINUTES OF A MEETING OF THE EXECUTIVE COMMITTEE OF THE
STATE BOARD OF HEALTH**

Raleigh, N. C., June 11, 1922.

The President of the Board, Dr. Way, having notified the Secretary that he would be in Raleigh on June 11, and the Secretary having suggested to the President that he ask Dr. Laughinghouse to come to Raleigh on the same day and to confer with the other two members of the Executive Committee, namely, the President and Dr. Richard H. Lewis, and Dr. Laughinghouse having been able to respond to the request, a meeting was held in the office of the Secretary to discuss various matters of interest to the Board, not for the purpose of taking any definite official action but for conference and advice.

Dr. L. B. McBrayer, having been informed that the Executive Committee would meet for the aforesaid purpose, came before the Executive Committee and proposed the following resolution, which was adopted:

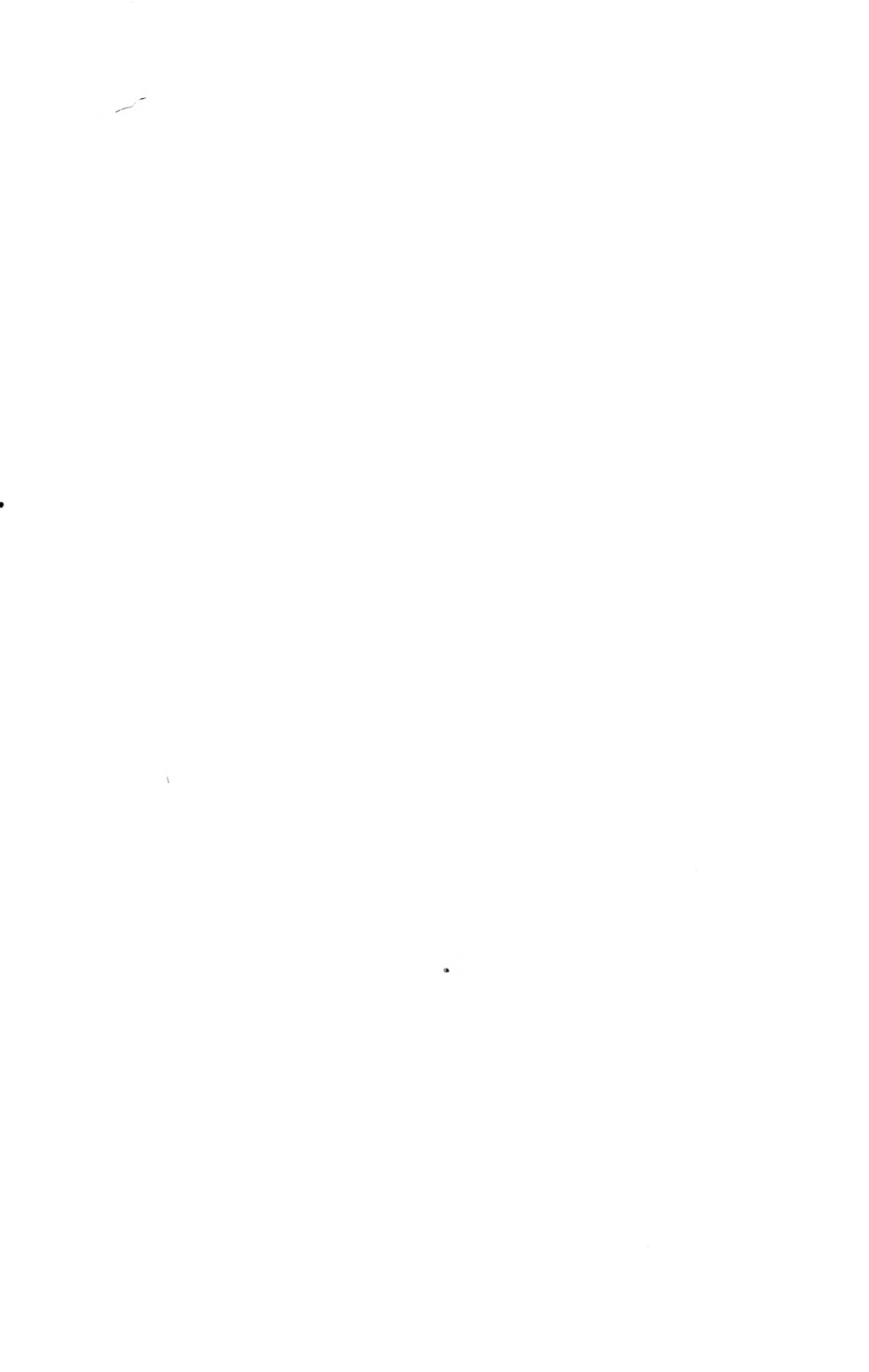
In Re North Carolina Sanatorium

"Whereas there has been transferred from the \$30,000 appropriated for two ambulatory cottages \$5,000 for a well, leaving in that fund \$25,000; and

"Whereas there is urgent need of this \$25,000 for the furnishing of new kitchen and erection of cold storage room now under construction, about \$12,000; steam heat in Assistant Superintendent's residence, about \$2,500; balance on extras in main building, about \$4,000, and other smaller items: Therefore, be it

"Resolved by the Executive Committee of the State Board of Health, That we recommend the transfer of the above mentioned \$25,000 as above suggested, and request the Governor to take such action and make such order as will make such a proper transfer.

(Signed) W. S. RANKIN,
Executive Secretary, State Board of Health."



This book circulates for a 2-week period and is due on the last date stamped below. It must be brought to the library to be renewed.

<p>DATE BY RECEIVED LIBRARY</p>		
---	--	--



WA
1
N862b
1920
-22

WA
1 Biennial report,
N862b 19th, 1920-22
1920
-22

DATE	ISSUED TO
MAY 25 1922	C. H. L. F. L. J.
	U.S. 4 9592

